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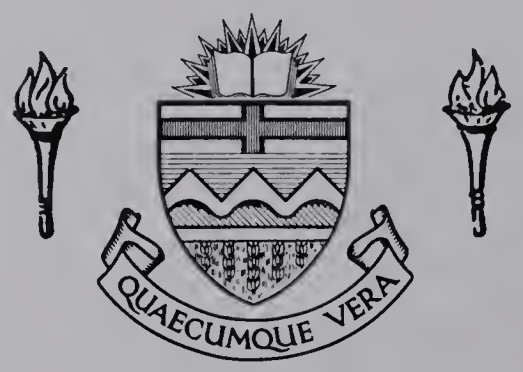

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A STUDY OF TEACHER-ATTITUDES CONCERNING STANDARDIZED PRACTICES IN INSTRUCTIONAL AREAS

by

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A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "A Study of Teacher-Attitudes Concerning Standardized Practices in Instructional Areas" submitted by Robert Richard O'Reilly in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

ABSTRACT

The central problem of the study was to investigate the attitudes of teachers concerning their professional autonomy in three selected areas as related to their work environment and their personality.

The study was carried out with a sample of 216 teachers from fifteen schools in Central Alberta.

The investigator visited each school and conducted interviews with each principal. From these interviews and through an examination of certain documentary materials, descriptions of the schools were written. These descriptions were submitted to a panel of judges who assessed the extent of standardization which proscribed the professional autonomy of teachers in each school.

The teachers completed questionnaires which yielded dogmatism (D) scores, satisfaction scores, need for autonomy (N) scores, perceived fulfillment of autonomy need (F) scores and need deficiency (ND) scores.

The results indicated that teachers desired progressively greater autonomy in the areas of (1) selecting materials and goals for the courses they teach (course content), (2) selecting methods of evaluating and reporting the progress of pupils (evaluation), and (d) determining standards for pupil conduct and establishing a system of rewards and punishment for pupil behavior. Generally, the perceptions of the teachers and the ratings of the judges indicated that schools do provide varying levels of autonomy for the teachers in that same rank order. However, the ND scores of teachers indicated that the difference between N and F was greatest in the

area of course content and least in the area of discipline, suggesting that teachers are most dissatisfied with the autonomy provided them in the area of course content.

ND scores correlated significantly with satisfaction scores.

The hypotheses relating dogmatism to a teacher's needs or a teacher's perceptions were not supported.

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CHAPTER I

THE PROBLEM

I. INTRODUCTION

Within a public school system, the teacher is subject to certain administrative and legal regulations which can originate from the school, the district, or the provincial level. These regulations are necessitated by the complexity of the school's responsibilities to the community and by the need for coordination.

On the other hand, due to the intimate nature of the task of teaching and the professional orientation of the teacher, there is also a need for teacher autonomy in the classroom. What are the teachers' needs for professional autonomy? To what extent are the activities of teachers coordinated and controlled. What personal and organizational factors influence the attitudes of teachers concerning independence in instructional areas?

II. STATEMENT OF THE PROBLEM

The central problem of this study was to investigate the attitudes of teachers concerning their professional autonomy in three selected areas as related to the extent of standardization in their schools.

The following three areas of activity which are central to the teaching function were selected for study:

1. Standardization of course content. This is effected through such means as the selection of goals, means to those goals, selection and restriction of textbooks, the determining of course outlines and the sequence in which units are to be taught.

2. Standardization of pupil evaluation. School and district policies concerning the evaluation of pupils, the methods of reporting results to parents and superiors, promotion and non-promotion, and testing programs, provide various degrees of standardization.

3. Standardization of pupil control and discipline. In this area standardization is effected by regulations which limit the discretion of teachers to discipline and control students.

In order to study this problem, the following more specific aims were established:

1. To examine, in selected schools, the extent of standardization in the above three areas which directly involve the professional performance of teachers.

2. To determine the degree of influence and autonomy which the teachers believe they should have in these areas, as well as the degree of independence which they believe they actually possess.

3. To examine the relationships between the extent of standardization in a school and the attitudes of teachers concerning their professional autonomy.

4. To investigate the relationships between a personality variable (dogmatism) and the attitudes of teachers.

The Extent of Standardization in Each Area

The school as an organization creates norms and regulations for various areas of activities in order to: place limits on the behavior of pupils so that students may be taught; standardize certain evaluation procedures so that the achievement of pupils may be assessed; and limit

the discretion of teachers in selecting teaching materials and activities so that, as a child progresses from grade to grade, he receives a sequential learning program.

To discover whether an identifiable pattern exists, in which the extent of standardization is consistently greater in one area than in the others, the following question is asked: Are some professional activities of teachers subject to more standardization than others?

Organizational Control and Teachers

The act of teaching demands that in some way, the teacher must be free to react to the needs of the pupils. Thus, the professional teacher requires a certain degree of autonomy. The teacher is called upon to judge the behavior of students and determine a strategy to correct the behavior of pupils when necessary. He must also select appropriate aims which he feels are suitable for a given class, and organize learning materials and experiences to achieve those aims. Finally, the teacher evaluates the progress of the students in the light of the selected aims. At each step, the teacher is guided by the official statements of aims and by the general curriculum pattern established by district and provincial authorities. Nevertheless, each group of children, and each child, presents a particular set of needs which must be met by the teacher.

The professional orientation of the teacher would lead him to seek the autonomy required to meet the particular needs of pupils. To what extent do the demands for organizational control affect the needs for autonomy of teachers? Does incongruency between needs for autonomy and the teachers' perceptions of the freedom which they do actually possess

lead to dissatisfaction?

Teacher Personality and Professional Autonomy

Rokeach's theory of dogmatism holds that persons can be placed on a continuum according to the extent that their minds are open or closed.[1] The more dogmatic person is expected to differ in his thinking from one with a more open mind. The more dogmatic person allows irrelevant factors to influence his perceptual and cognitive processes as well as interpersonal relationships. Irrelevant factors, such as external pressures of reward and punishment which may be exerted by peers, authority figures, cultural or institutional norms, incline the more closed-minded person to ignore, rationalize, distort, or narrow his perceptions to deal with a given situation. Perhaps then, the more dogmatic person would tend to have lower needs for autonomy and to perceive that his needs for autonomy are fulfilled. Thus, the more dogmatic teacher would avoid conflict with school administrators who are charged with enforcing some organizational control.

The following sub-problems were therefore investigated:

1. Do the more dogmatic teachers demand less autonomy in professional areas than do less dogmatic teachers?

2. Do the more dogmatic teachers perceive that their autonomy needs are fulfilled to a greater extent than do less dogmatic teachers?

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[1]Milton Rokeach, The Open and Closed Mind (New York: Basic Books, Inc., 1960).

Congruency of Organizational Demands and Teacher Personality

It is possible that when organizational control systems and personality systems are matched, less conflict exists between organizational demands for control and teachers' needs for autonomy. That is, the more dogmatic teachers in schools where there is a high degree of standardization, and the less dogmatic teachers in schools where there is only a limited extent of standardization may report lower needs for autonomy and greater fulfillment of autonomy needs than do other teachers. In other words, it is assumed that the attitudes of teachers concerning their professional autonomy are a function of the standardization in schools (environment) and dogmatism (personality).

III. IMPORTANCE OF THE STUDY

There are many pressures on the school which tend to increase the use of coordinating and standardizing devices within the schools, for example: the increased complexity of the curriculum; the rapid growth of knowledge; the mobility of a large segment of the general population; and the rapid expansion of the school population. Voices are raised for the establishment of national curricula and national departments of education. School organizations, as they grow in numbers to be served and in complexity, begin to resemble bureaucratic, impersonal organizations. It is important to know how much standardization presently exists in schools, and to know how much such coordination of activities presently infringes upon the teacher's professional autonomy. It will become increasingly important to know how such organizational devices affect the attitudes of teachers.

Some psychologists, including Fromm[2] and Jahoda,[3] as well as certain sociologists, notably Merton,[4] Inkeles,[5] and Weber[6] have been concerned with the fact that the institution or organization in which a person works can affect his attitudes, and to some extent, his personality. These writers have been primarily concerned with the authority structures, regulations and demands for conformity which are characteristic of certain rational-legal organizations. Thus, it is important to study how the organizational demands of schools do, in fact, affect the attitudes and personalities of the teachers.

A number of studies have investigated the relationship between individual characteristics of teachers and the bureaucratic dimensions of schools.[7] These studies have shown that schools, in general display

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[2]Eric Fromm, Escape From Freedom (New York: Harper, 1958).

[3]Marie Jahoda, Current Concepts of Positive Mental Health (New York: Basic Books, 1958).

[4]Robert Merton, "Bureaucratic Structure and Personality," Social Forces, XVIII (May, 1950), pp. 560-588.

[5]Alex Inkeles, "Personality and Social Structure," Sociology Today: Problems and Prospects, R. Merton and L. Cottrell, editors (New York: Basic Books, 1961), pp. 249-276.

[6]Max Weber, The Theory of Social and Economic Organizations, T. Parsons, editor (New York: The Free Press, 1964).

[7]James G. Anderson, "Applicability of the Bureaucratic Model to the Organizational Structure of the School" (unpublished Ph.D. thesis, Johns Hopkins University, 1964); Harry J. Hartley, "Bureaucracy and Local-Cosmopolitan Orientation Examined with Selected Criterion Variables" (unpublished D. Ed. thesis, The Pennsylvania State University, 1964); and, David A. MacKay, "An Empirical Study of Bureaucratic Dimensions and Their Relation to Other Characteristics of School Organization" (unpublished Ph.D. thesis, University of Alberta, Edmonton, 1964).

some bureaucratic characteristics, and the bureaucratic organization of a school can be related to various teacher variables, as well as the academic achievement of pupils. However, the bureaucratic model, although useful, perhaps does not tap the central teacher-pupil activities which occur in the school. The bureaucratic model tends to deal more with administrative concerns, such as: going through the proper channels; promotion of teachers to administrative positions; and the expected deportment of teachers when dealing with superiors, peers, parents, and students. Alternatively, it should be useful to examine the school from the viewpoint of standardization of specific teacher-pupil activities.

Thus the importance of this study is threefold. It should demonstrate certain patterns of standardization in schools; it should shed further light on the general problem of the effects of a role on a person's attitudes; and, it should present an alternative, or at least complementary,method of studying the school as a formal organization.

IV. DEFINITION OF TERMS

Standardization

The extent of standardization in a school is the extent to which subject matter content, methods of pupil evaluation, and methods of pupil discipline and control, are regulated by rules or directives. The extent of standardization in a school is the cumulative effect of the setting of goals, aims, objectives, sequences, methods, or processes, by governmental or school board regulation, by rule enforcement of district or provincial officers (principal, inspector, superintendent) through either written or verbal communication.

Need

A need is a lack of something requisite or desirable which becomes a motivating force to organize an individual's actions and perceptions toward the fulfillment of that need.

Need for Autonomy

Need for autonomy is part of the need for esteem. It is a desire for competence, mastery, and freedom. In this study, it is defined as need for independence in the teacher's task-areas of selection of course content, determination of techniques, methods and standards for pupil evaluation, and independence in methods of pupil control and pupil discipline.

Need Fulfillment

Need fulfillment is the extent to which a person perceives that his need is satisfied.

Need Deficiency

Need deficiency is the difference between need and need fulfillment; that is, the extent to which need fulfillment fails to satisfy the need.

Dogmatism

A person is dogmatic to the extent that his belief system (or cognitive structure) tends to be closed. The less dogmatic the person, the greater the extent . . .

> . . . to which the person can receive, evaluate, and act on relevant information received from the outside on its own merits, unencumbered by irrelevant factors in the situation arising from within the person or from the outside.[8]

Thus, the more open the system, the more the person will differentiate between information and its source. Alternatively, dogmatism is associated with arbitrary reliance on authority and identification with those in authority positions.

Teacher-Satisfaction

Teacher-satisfaction is the teacher's contentment with his present teaching position in all its aspects.

V. LIMITATIONS, ASSUMPTIONS AND DELIMITATIONS

Limitations

The major limitations of this study are those of the instruments used and the variables selected for study. Dogmatism is not a measure of all personality, and the level of standardization in a school is not a measure of all organizational variables. Thus, these two factors do not account for the totality of forces affecting the behavior, attitudes, and satisfaction of teachers. Other personal or organizational factors, except for the personal variables of sex, training, and experience, which have been statistically controlled, are not accounted for.

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[8]Rokeach, op. cit., p. 57.

Assumptions

1. The instruments were assumed to possess a degree of validity and reliability suitable for the present study. This is discussed further in Chapter III.

2. It was assumed that the principals were aware of the standardizing activities in their schools and that they accurately reported those activities to the investigator.

Delimitations

Fifteen schools from eight school districts in central Alberta were selected to participate in this study. Only schools with ten or more full-time teachers were selected; the size of staffs ranged from eleven to thirty-one. This study was limited to full-time teachers of grades one to six.

VI. ORGANIZATION OF THE THESIS

The following chapter presents the theoretical framework on which this study is based. The relevant research studies are reviewed in Chapter III. The instrumentation, collection of data and certain characteristics of the sample are presented in Chapter IV. The manner of grouping the schools is described in Chapter V. A preliminary analysis of the data, reliability scores for certain instruments and a detailed explanation of multiple linear regression techniques used in this study are presented in Chapter VI. The hypotheses are tested in Chapter VII. The report concludes with a summary of the thesis; with the conclusions drawn from the analysis; and with implications both for further research and for practicing administrators.

CHAPTER II

THEORETICAL FRAMEWORK

The purpose of this chapter is to elaborate on the problem stated in the first chapter and to develop the hypotheses. The theory is drawn from three main sources: the literature dealing with theories of organizations and the behavior of individuals within organizations; Maslow's theory of needs; and Rokeach's theory of dogmatism.

I. ORGANIZATION THEORY

Two key characteristics of formal organizations are: goal-orientation, and coordination of activities. In this study, the school is treated as a formal organization in which both these characteristics can be observed and studied.

Organizations

Max Weber was perhaps the first to systematically describe the distinctive rational-legal characteristics of the formal organization,[1] which Homans said "is modeled on, is a rationalization of, tendencies that exist in all human groups."[2] Weber analyzed formal organizations as part of his

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[1]Max Weber, The Theory of Social and Economic Organization, trans. by A. M. Henderson and T. Parsons, T. Parsons, editor (New York: Oxford University Press, 1947).

[2]George C. Homans, The Human Group (New York: Harcourt, Brace, 1950), pp. 186-187.

theory of legitimate social control, beginning with the principle of hierarchical control, wherein each official has authority over those under him.[3] A social group is, in Weber's terms, an organization "so far as its order is enforced by the action. . .of a chief or head. . . ."[4]

According to Weber, a formal organization is "an associative social relationship characterized by an administrative staff devoted to such continuous purposive activity."[5] Such a definition implies that an organization has a body of legitimate legal rules.[6]

A slightly different view of organizations is presented by Barnard. He defines them as "that type of cooperation among men which is conscious, deliberate, and purposeful."[7] Despite a shift in emphasis, Barnard agrees with Weber that an organization is goal-oriented, that the activities of individuals in an organization are coordinated, and that such coordination is accomplished by rules and by hierarchical authority.

Goals of Organizations

Parsons regards the presence of explicit and specific objectives as the primary criterion for differentiating formal organizations from other types of social structures.[8] The official statement of the goals to be

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[3]Weber, op. cit.

[4]Ibid., p. 145.

[5]Ibid., p. 151

[6]W. Richard Scott, "Theory of Organization," in R. Faris, editor, Handbook of Modern Sociology (New York: Rand McNally, 1962), pp. 486-487.

[7]C. I. Barnard, The Functions of the Executive (Cambridge, Mass.: Harvard University Press, 1938), p. 73.

[8]Talcott Parsons, Structure and Process in Modern Societies (Glencoe, Ill.: The Free Press, 1960).

pursued furnishes some general criteria for orienting the activities of organization members and for evaluating the progress of the institution.[9]

Goals are not necessarily static. Etzioni points out that goals may shift from the original purpose according to the needs of the organization to survive--for instance, if a goal is ever completely achieved, new goals must be found.[10]

March and Simon state that within an organization the needs of sub-units may dictate sub-unit goals which may or may not coincide with those of the total organization.[11] This is more likely to happen when the stated goals are expressed as vague or general aims rather than as specific operational activities to be performed. Thus, in schools, teachers may interpret the official curriculum guides in varying ways, if those documents list only general aims, concepts, and modes of inquiry to be developed rather than a list of day to day activities to be followed.

A general problem then is to translate stated aims into the attainment of specific goals which will culminate with the achievement of the chief aims. This is accomplished through methods of control and coordination.

Methods of Control

Weber listed several characteristics of a bureaucratic organization which would ensure coordination, control and predictability--that is,

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[9] Ibid., pp. 20-21.

[10] A. Etzioni, Modern Organizations (Englewood Cliffs, N.J.: Prentice-Hall Inc., 1964), pp. 15-19.

[11] J. March and H. A. Simon, Organizations (New York: John Wiley and Sons, 1958), pp. 41-42.

methods of achieving stated goals.[12] He began by listing the conditions under which workers function: (1) workers are organized in a clearly defined hierarchy of offices; (2) each office has a clearly defined sphere of competence; (3) candidates are appointed on the basis of technical qualifications; (4) workers are subject to strict and systematic control.[13]

March and Simon developed the concept of programming, that is, the specification of a set of operations "and the determination of which precise activities are to be performed at which precise times and places."[14] Programs are linked to observable and measurable job activities and job outputs. Generally, control and supervision will be exercised on either activities or outputs, depending on the ease of measuring and observing these phases.[15] Thus, in a school situation, an administrator may rate a teacher by observing his classroom performance or by evaluating the results his pupils achieve on examinations. In the first case, he would compare the teacher's performance with that prescribed in various methods and course manuals; in the latter, he would use tests to determine if the pupils have learned the material which the teacher has been instructed to teach.

The latter method is similar to the example cited by Stinchcombe. He points out that in certain occupations, management sets only goals,

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[12]Weber, op cit., pp. 329-341.

[13]Ibid., pp. 333-334.

[14]March and Simon, op. cit., p. 26.

[15]Ibid., p. 145.

and a trained work force is free to select means to those goals, so that job outputs are specified and checked.[16]

In the complex organization, however, some job activities must be coordinated and standardized. According to Blau, a primary need of modern organizations is a complex system of coordination which is achieved through regulations, authority structures, and sets of standards established either by regulations imposed from above or by common agreement.[17]

The School as a Formal Organization

The school is a formal organization whose aims are stated in various public and official documents. Since such statements are often open to various interpretations, some attempts are made to coordinate and routinize the teaching function. However, the changing character of the body of knowledge to be transmitted, and the need to adjust content and teaching methods to differences among students, set limits on the extent to which these tasks can be standardized.

The autonomy of teachers to select goals, determine means to those goals, and evaluate the effectiveness of the results is limited by various organizational devices. First, the department of education within a province states the goals, aims and activities to be pursued. Even the specific operational means to those goals may be specified in some detail.

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[16]Arthur Stinchcombe, "Bureaucratic and Craft Administration: A Comparative Study," Administrative Science Quarterly,(Sept., 1959).

[17]Peter Blau, Bureaucracy in Modern Society (New York: Random House, 1956), pp. 17-19.

Secondly, there is a formal hierarchy of authority, beginning with the principal and rising through to the superintendent and senior provincial officers. Finally, the teachers themselves may establish norms to co-ordinate activities within each school.

There are two questions which may now be asked:

1. Are some activities of teachers subject to more standardization than others?

2. Is the extent of such standardization related to certain attitudes and needs of teachers, especially their need for autonomy and their general orientation toward authority?

Among the hypotheses stated at the end of this chapter, Hypothesis 1 is designed to deal with the first question, and Hypotheses 4 to 12 are related to the second question. The next section examines the needs and attitudes of teachers concerning their functional autonomy in schools.

II. ATTITUDES OF TEACHERS CONCERNING STANDARDIZATION

Introduction

Robert Merton, in a study of the dysfunctional results of the application of bureaucratic rules, posited that the demand for control made by the top hierarchy resulted in rigid behavior and in impersonality toward clients.[18] Furthermore, the resulting difficulty with clients so treated, leads to a demand for more rules which will protect the members.

Some years earlier, Waller, in one of the first sociological studies of a school, had foreshadowed Merton's theory. As a result of his study, he concluded that bureaucratic demands on a teacher called for dominative

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[18]Robert K. Merton, "Bureaucratic Structure and Personality," Social Forces, XVIII (1940), pp. 560-568.

impersonal behavior, in contrast to the warm open relationships which he felt were required for teaching.[19]

More recently, Gordon reported the results of his long-term sociological study of a high school. According to Gordon, the central functional dilemma which confronted his teachers was the conflict between official procedures, and the affective personalistic components of teaching.[20] A study by Moeller found that in areas where teachers experienced difficulty with parents of pupils, they sought an increase in bureaucratic rules, for these impersonal rules tended to increase the teachers' sense of power.[21]

These studies suggest that when the bureaucratic model is applied to schools, the results, as Merton might suggest, lead to serious dysfunctions. A purpose of this study is to examine the effects of varying degrees of standardization in an organization on the attitudes of the teachers.

Needs, and Needs for Autonomy

A frame of reference for examining motives and needs is provided by Maslow.[22] In terms of his theory, there are physiological needs (water,

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[19]Willard Waller, The Sociology of Teaching (New York: John Wiley and Sons, 1932).

[20]C. Wayne Gordon, The Social System of the High School (New York: Random House, 1956).

[21]Gerald Moeller, "Bureaucracy and Teachers' Sense of Power," Administrator's Notebook, III (November, 1962).

[22]A. H. Maslow, Motivation and Personality (New York: Harper and Row, 1954).

food, sleep) which must be satisfied at least to a minimal degree before an individual can turn to higher-order needs, which are: safety and security needs; social and esteem needs; and, self-actualizing needs. A need, according to Maslow, is a psychological, conscious or unconscious motivating force. This motivation "is constant, never ending, fluctuating and complex, and it is an almost universal characteristic of practically every organism."[23] Needs serve to direct and to organize an individual's behavior by making it purposive and by providing the means by which selections may be made from a wide range of potential behavior.

Need for autonomy. Maslow believes that esteem needs may be classified into two subsidiary sets. The first is desire for reputation, status, recognition, and importance; the second, which may be termed need for autonomy, is the desire for strength, achievement, mastery, adequacy and competence, independence and freedom.[24] Thwarting these particular needs leads to feelings of inferiority, weakness, and helplessness.[25] Maslow suggests that most emotionally or psychologically "healthy" people would have these needs at least to some minimal degree. It would then seem logical to propose that most teachers do have some need for independence and will seek to express it in their task of teaching.

Teachers' Needs and School Organizations

Supervision of teachers is a traditional task of the school

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[23] Ibid., p. 69.

[24] Ibid., p. 90.

[25] Ibid., p. 91.

principal, supervisory staff and other administrators. Yet, these officers may be violating the need for professional autonomy of the teacher by their supervisory activities. Anne Trask conducted a study to examine this problem. Of the forty-five principals in her sample, almost half reported that their teachers reacted negatively to supervision.[26] She concluded that. . .

> professionals are committed to individual autonomy. That is, they claim the right to know what their clients' interests are and what best serves these interests, without direction or interference from fellow practitioners or. . . from superordinates.[27]

A significant part of her findings is that teachers also object to the supervisory and coordinating practices of fellow staff members which may limit their freedom.

Corwin, in a study of staff conflict in schools, found that among those teachers who had the highest rates of conflict with the administration were teachers with high professional orientations.[28] That is, teachers who consider themselves to be the most professional are most insistent on freedom from hierarchical rulings which may limit their autonomy.

Another study revealed that teachers generally preferred principals

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[26]Anne Trask, "Principals, Teachers and Supervision: Dilemmas and Solutions," Administrator's Notebook, XIII (December, 1964).

[27]Ibid.

[28]R. G. Corwin, The Development of an Instrument for Examining Staff Conflicts in the Public Schools (Columbus, Ohio: Ohio State University, 1964).

who involved them in decision-making.[29] As Straus has pointed out, such participation is ". . . a form of power equalization which gives subordinates greater freedom to set goals and/or to determine how to work for them"[30] This is borne out by the results of the studies by Chase[31] and by Sharma.[32] They found that not only do teachers think that they should participate in decision-making processes, but also that their satisfaction is directly related to the extent of such participation. Perhaps the opportunity to share in decision-making is a method of protecting professional autonomy and thus enhances satisfaction.

Statement of Sub-Problems

The material presented thus far contains three sub-problems. The first deals with teachers' needs for autonomy in various areas of activity; the second with the relationship between teacher-satisfaction and congruency of teachers' needs for autonomy with the teachers' perceptions that such needs are being fulfilled; and the third with the relationships between the extent of standardization in schools and the attitudes of teachers concerning professional autonomy.

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[29]Edwin Bridges, "Teacher Participation in Decision Making," Administrator's Notebook, XII (May, 1964).

[30]George Straus, "Some Notes on Power-Equalization," in H. J. Leavitt (ed.), Social Science of Organizations (Englewood Cliffs, N.J.: Prentice-Hall Inc., 1963), p. 62.

[31]Francis S. Chase, "The Teacher and Policy Making," Administrator's Notebook, I;1 (May, 1952).

[32]C. L. Sharma, "Who Should Make What Decisions?" Administrator's Notebook, III:8 (April, 1955).

Standardization in three areas. Teachers may not demand autonomy in all areas to the same extent. The Merton model of bureaucratic organization hypothesized that demand for control leads to increasingly impersonal relationships with clients, which in turn enforces the needs for rules.[33] In a school then, the organizational demand for control and standardization may lead to a certain amount of difficulty with pupils who attempt to seek responses to their individual needs. The teachers then, according to the model, look to the establishment of rules as a defense mechanism. Moeller's findings in the area of pupil discipline seem to support this contention.[34] That is, teachers will seek out rules for pupil control and discipline, even though these rules limit their autonomy.

A certain degree of impartial rules is to be expected in the area of evaluating pupils. Large numbers of pupils must be judged on some standardized basis as they move from level to level. Nevertheless, evaluation of pupils is an area which calls for the judgment of a professional. Teachers desire autonomy in this area for another reason also. Evaluation should be guided by goals or aims. To some extent, those who establish and control evaluation procedures exert a strong influence on the aims which are pursued in the schools.

The above comments are also applicable to the area of selection of course content. Curriculum plans should specify organizing elements but leave to the individual teacher the freedom to select specific problems,

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[33]Merton, op. cit.

[34]Moeller, op. cit.

topics, and units of work, appropriate to the needs of the class.[35]

Keene has suggested that teachers' needs for autonomy are highest in the area of course content because it is most central to the teaching process, while the areas of evaluation and discipline are of somewhat lesser importance.[36] His study, conducted with a sample of high school teachers, confirmed his hypothesis.

Hypothesis 2, cited at the end of this chapter, is designed to deal with the following question:

> Do teachers express greater needs for autonomy in some areas of activity than in others? More specifically, do they express successively greater needs in the areas of discipline, evaluation and course content?

Satisfaction and need fulfillment. The studies by Chase[37] and by Sharma[38] suggested that the satisfaction of teachers with their teaching position is directly related to the extent to which they participate in and influence decision-making within the school. Porter, in a study of attitudes of business managers, suggested that need deficiency (that is, the extent to which needs remain unfulfilled) is a measure of dissatisfaction.[39] To discover the relationship between deficiency of

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[35]John I. Goodland, Planning and Organizing for Teaching (Project on the Instructional Program of the Public Schools) (Washington, National Education Association, 1963), p. 29.

[36]Roland Keene, "Operational Freedom in Complex Organizations" (unpublished D.Ed. thesis, Washington University, St. Louis, Mo., 1962).

[37]Chase, op. cit. [38]Sharma, op. cit.

[39]L. W. Porter, Organizational Patterns of Managerial Job Attitudes (New York: American Foundation for Management Research, 1963).

autonomy needs of teachers and their satisfaction with their school positions the following question is asked:

> Is deficiency of autonomy needs a measure of teachers' satisfaction with their school positions?

Hypothesis 3 deals with this question.

Teacher-attitudes and standardization. One component of the teacher's professional skill is the ability to respond to the variation of needs of students. Consequently, an important facet of school organization is the autonomy granted to, and demanded by, the teacher to make discretionary judgments about procedures to be used when the student is in his charge.

At the same time, schools display, to varying degrees, the characteristics of a bureaucracy: an hierarchical system of authority; rules for encumbents, both staff and students; a definition of roles based on merit and competence; operation according to rules of procedure; and impersonality of relationships between staff and students.[40,41] According to Bidwell, maintaining a routinized system of pupil movement

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[40]D. A. MacKay, "An Empirical Study of Bureaucratic Dimensions and Their Relation to Other Characteristics of School Organization" (unpublished Ph.D. thesis, University of Alberta, Edmonton, 1964).

[41]Norman Robinson, "A Study of the Professional Role Orientations of Teachers and Principals and Their Relationship to Bureaucratic Characteristics of School Organizations" (unpublished Ph.D. thesis, University of Alberta, Edmonton, 1966).

from unit to unit is a principal task of school-system administration.[42]

Therefore a teacher, both as an individual and as a professional, has needs for autonomy which bring him into conflict with the needs of the school as an organization.

The problem is to investigate the boundaries of the individual and the organization or the points where they overlap and are interrelated. The selected points of contact are the attitudes of teachers toward autonomy and the provision for these needs by the organization. The following questions form the basis for Hypotheses 4 to 6 which are stated at the end of this chapter.

1. Does the extent of standardization in schools influence the needs for autonomy of the teachers?

2. Does the extent of standardization in schools influence the teachers' perceptions that their needs for autonomy are being fulfilled?

3. Does the extent of standardization in schools influence the magnitude of the need deficiencies of teachers in the area of professional autonomy?

III. DOGMATISM OF TEACHERS AND ACCEPTANCE OF AUTHORITY

The above formulation may be an over-simplification of the issue. Bridges investigated the effects of teacher-participation in decision-making in schools.[43] Although teachers preferred principals who involved teachers in the process of decision-making, those individuals with high needs for independence expressed less favorable attitudes toward their

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[42]Charles E. Bidwell, "The School as a Formal Organization," in James March (ed.), Handbook of Organizations (Chicago: Rand McNally and Company, 1965), p. 976.

[43]Bridges, op. cit.

principals than did other teachers. Bridges concluded that teachers with high needs for independence viewed the principal as an authority figure capable of circumscribing the level of autonomy they desired in their work. However, no attempt was made to account for these differences in need.

An explanation for varying levels of need for independence has been suggested by Presthus.[44] In his organizational analysis, he refers to an organization as a relatively permanent system of authority relationships. Thus, "reaction to authority constitutes the most critical variable in organizational accommodation."[45] Presthus cites a typology of accommodation: upward mobiles, who most successfully internalize the norms of the organization; indifferents, who have been alienated from the organization and its norms; and ambivalents, the marginal workers who desire the rewards which the organization can offer but are unable to accept the control and hierarchical authority which is not based on strictly rational grounds. His discussion includes a psychological analysis of each type, in which the acceptance of authority and desire for the rewards which the organization can offer are prominent concepts. Among Presthus' contentions are that the upward mobile tends to be authoritarian (as defined by Adorno in the development of the F-scale),[46] whereas ambivalents tend to reject non-rational bases for authority. The organization thus "creates a

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[44]Robert Presthus, The Organizational Society (New York: Vintage Books, 1962).

[45]Ibid., p. 140.

[46]T. W. Adorno et al., The Authoritarian Personality (New York: Harper and Row, 1950).

situation unalterably opposed to the ambivalents' demands for autonomy."[47] However, it is important to note that one is not ambivalent only because of one's orientation to authority. "The ambivalent finds bureaucratic structures uncongenial because his value preferences deny his functional requirements."[48]

The F-scale was constructed to measure general authoritarianism, but was designed with the following purposes in mind: (1) to measure prejudice without reference to any specific minority group, and (2) to measure the underlying dispositions toward a fascist view of life.[49] As Shils points out, in addition to 'right' authoritarianism as measured by the F-scale, there is also a 'left' authoritarianism.[50]

It is felt that the variable selected for this study should be general authoritarianism, that is, a person's reaction to authority regardless of ideological or philosophical content. For this reason, the variable dogmatism has been adopted.

Open and Closed Belief Systems

The manner in which people hold beliefs is the central element in Rokeach's theory of dogmatism. He defined his study of this facet of authoritarianism thus:

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[47]Presthus, op. cit., p. 283. [48]Ibid.

[49]Adorno, ibid.

[50]E. A. Shils, "Authoritarianism: 'Right' and 'Left'," Studies in the Scope and Method of the Authoritarian Personality, R. Christie and M. Jahoda, (eds.), (Glencoe, Ill.: The Free Press, 1954), pp. 24-49.

> . . . we should pursue a more theoretical ahistorical analysis of the properties held in common by all forms of authoritarianism regardless of specific ideological, theological, philosophic, or scientific content.[51]

Rokeach describes the belief system in terms of three major dimensions: a belief-disbelief dimension; a central-peripheral dimension; and a time-perspective dimension.

Belief-disbelief dimension. All the sets, beliefs, expectancies or hypotheses, conscious or unconscious, that a person accepts as true of the world at a given time constitutes his belief system. His disbelief system comprises

> . . . a series of subsystems rather than a single one, and contains all the disbeliefs, sets, expectancies, conscious or unconscious, that to one degree or another a person at a given time rejects as false.[52]

The open-minded person will have a greater tendency than the closed-minded person to logically interrelate all his sets of beliefs and disbeliefs.[53]

Central-peripheral dimension. The three levels or layers of organization of personality are the central, intermediate and peripheral areas. The central region represents the person's "primitive" beliefs, that is, "... some set of beliefs about the world he lives in, the validity of which he does not question, and in the ordinary course of events, is not prepared to question."[54]

The intermediate region represents the beliefs of a person in and

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[51] Milton Rokeach, The Open and Closed Mind: Investigations into the Nature of Belief Systems and Personality Systems (New York: Basic Books, Inc., 1960), p. 14

[52] Ibid., p. 33

[53] Ibid.

[54] Ibid., p. 41.

about the nature of authority--authority being "...any source to whom we look for information about the universe."[55] Rokeach is here concerned not so much with specific content (the items a person believes) but with formal content.[56] This conception leads Rokeach to identify persons with dissimilar ideologies but who have identical orientations to authority.

The peripheral area includes each and every (non-primitive) belief derived from some authority, regardless of whether such beliefs are perceived consciously as being derived by the person himself. What is of major concern here is not so much ideological content, but the structural interconnections among peripheral beliefs, and in turn, their structural relations with those beliefs represented as being in the intermediate and central regions.

Time-perspective dimension. The time dimension refers to the "...person's beliefs about the past, present and future and the manner in which they are related to each other."[57] A broad time-perspective is one in which the person's past, present and future are all represented within the belief-disbelief system. A narrow, future time-orientation is characteristic of the closed-minded person.

Distinction between the open and closed systems. The extent to which a person's system is open or closed is:

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[55] Ibid., p. 43.

[56] Two people may have separate specific beliefs, (e.g., a believer in atheistic communism and a Catholic), but both may hold a common formal belief (the existence of absolute authority).

[57] Ibid., p. 51.

> ...the extent to which the person can receive, evaluate, and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from within the person or from the outside.[58]

Examples of irrelevant internal pressures may be modes of perception, habits, irrational ego motives, or human needs. Irrelevant external pressures may be the possibility of reward or punishment arising from some authority such as peers, parents, superiors, reference groups and various social or cultural norms.[59]

The more closed the belief system the greater the degree of rejection of disbelief systems; the greater the belief in absolute authority; the more one evaluates others in accordance with the opinions of the authorities with whom he agrees or disagrees; the more will peripheral beliefs be related to each other through their common origin in authority rather than through intrinsic logical connections.[60]

Rokeach's theory of open and closed systems of thinking is closely related to two factors in this study: (1) teachers' need for autonomy and teachers' acquiesance to standardization or teachers' conformity to regulation. Conformity and autonomy are not necessarily opposites; however, persons with varying autonomy needs will accept varying modes of conformity behavior.

Conformity. According to Rokeach, the closed-minded person relies on authority, not because of cognitive correctness, "...but on the ability of authority to mete out reward and punishment."[61] Since the person with

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[58] Ibid., p. 57.

[59] Ibid.

[60] Ibid., pp. 54-55.

[61] Ibid., p. 63.

a closed mind perceives the world to be unfriendly,[62] he tends to align himself with those who are able to protect and reward him, and thus place himself in a situation where rules are well-defined. The last statement is supported by a study reported by Rokeach.[63] Students in a denominational college, preparing for careers in youth work (e.g. Boy Scout executive or YMCA secretary) were homogeneous in their attitudes as measured by the Allport-Vernon Scale. Their values were also in conformity with the values of the college. Six years later changes in attitudes and occupational preference were noted. The open-minded group had not only maintained their orientation to social service, but had gone on to further studies to qualify for skilled social service positions such as medicine, the church, and social welfare. Those with middle scores on the dogmatism scale changed neither their values nor their vocational preference. Those with closed systems showed a change in attitude away from social service orientations and entered careers which are characterized by strict codes of rules, i.e., banking, the armed services.

Evidence that dogmatic persons, more than open-minded persons conform to the opinions of those with high status is provided by Vidulich and Kaiman.[64] In an experimental laboratory situation, using autokinetic effect, they found that the more dogmatic subjects tended to conform with the responses of a confederate, especially if the confederate was of high status.

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[62] Ibid., p. 56.

[63] C. Gratton Kemp, "Changes in Values in Relation to Open-Closed Systems," reported in Rokeach, op. cit., pp. 335-346.

[64] Robert Vidulich and Ivan P. Kaiman, "The Effect of Information Source Status and Dogmatism upon Conformity Behavior," Journal of Abnormal and Social Psychology, LXIII (1961), pp. 639-642.

Autonomy. There is only indirect evidence that open-mindedness is linked with desire for autonomy. One may argue that if closed systems are related to conformity, then open systems are related to desire for autonomy. Rokeach provides some support for this speculation with the following statement: "...the more open the belief system, the more should the person be governed in his actions by internal self-actualizing forces."[65]

Statement of Sub-Problem

The open-minded teacher may evaluate the need for coordination on one hand and his own need for autonomy on the other. The closed-minded, or highly dogmatic teacher may allow the possibility of reward or punishment, the attitude of administrators and his own needs for security to cloud his perceptions to a greater extent than will the non-dogmatic teacher. In other words, the highly dogmatic teacher would probably rely on arbitrary authority of rules and accepts standardized practices to a greater extent than the teacher who is less dogmatic.

Closed-minded teachers may react to the school situation in a number of ways. First they may tend to remain in schools which have many standardized procedures; secondly, they may see the need for standardization especially if they sense that they are threatened, e.g. they will ask for more rules concerning pupil control if discipline becomes a problem; finally, they may tend to identify with their superiors (who can mete out reward or punishment) and thereby feel that they have sufficient autonomy. On the other hand, if there is insufficient authority to provide for

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[65]Rokeach, op. cit., p. 58.

standardized practices in the schools, those teachers with high dogmatism scores may tend to be less satisfied.

Two problems present themselves. The first deals with attitudes toward autonomy. Does a relationship exist between extent of dogmatism and attitudes toward autonomy? The second problem asks if there are particular combinations of levels of dogmatism and the extent of standardization in schools which are related to attitudes toward autonomy. Hypotheses 7 to 9 relate to the first question and Hypotheses 10 to 12 relate to the second.

IV. SUMMARY OF THE THEORY

Introduction

The school has been defined as a formal organization, that is a social group which is goal-oriented, and possesses rules, an hierarchy of authority and other coordinating devices to achieve the goals. The various standardizing practices of the organization limit the functional autonomy of teachers in the performance of their professional duties. Teachers value their professional independence for several reasons: (1) the nature of the task requires that teachers be prepared to respond to the individual needs of pupils; (2) teachers are trained to judge and make decisions concerning the various teaching problems; and (3) teachers, as most individuals, have a need for independence which can be expected to be manifested in the performance of their chosen career.

Teachers and Standardization

Needs for autonomy may not be the same in all areas of activity. Teachers may, to a point, welcome organizational rules in the area of pupil

discipline for, as Anderson has pointed out, the existence of such rules increase the teachers' authority and sense of power.[66] On the other hand, it appears that in the selected area which is closest to the teaching process, course content, teachers will express their greatest needs for autonomy. The area of evaluation is suggested to be an area between discipline and course content as far as the demands of teachers for independence are concerned.

Schools and Standardization

Schools may not enforce the same level of regulation in each of these three areas. In order to maintain control over large numbers of pupils and ensure the safety and equal treatment of all, rules may be most rigid in the area of pupil discipline and control. Because the public educational system seeks to establish standards of achievement for all students, some regulation is required in the area of pupil evaluation. However, beyond guaranteeing a certain sequence of general concepts and abilities, the school need not prescribe a rigorous set of regulations concerning course content. Thus the level of standardization (and complementary levels of need fulfillment of the autonomy needs of teachers) will decrease from control of pupils, to evaluation and to course content.

Needs for Standardization

If needs are not fulfilled, it can be assumed that the frustrated need will become more insistent. Thus, in schools where there is high

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[66] James G. Anderson, "Applicability of the Bureaucratic Model to the Organizational Structure of the School" (unpublished Ph.D. thesis, Johns Hopkins University, 1964).

standardization, teachers may express greater needs for autonomy. Teachers will also report lower fulfillment of needs and consequent greater need deficiency.

Dogmatism and Needs

A basic element of dogmatism is orientation toward and acceptance of authority. It is suggested that the more dogmatic the individual, the less he will express needs for autonomy; the more he will perceive that his needs for independence are being fulfilled; the more he will manifest congruency between need and need fulfillment of autonomy needs.

Need Deficiency and Satisfaction

It is assumed that a key factor in a teacher's satisfaction with his teaching position is the degree to which the perception that his needs for autonomy are fulfilled match his actual needs for autonomy. In other words, a teacher's satisfaction will increase as the need fulfillment scores approach the need for autonomy scores.

V. HYPOTHESES

The following hypotheses are proposed to test the questions which have been raised in the various sub-problems.

Hypothesis 1

It is hypothesized that the rank order of standardization in various areas will be student control (first and highest), pupil evaluation (second) and course content (third and lowest).

Hypothesis 2

It is hypothesized that teachers will demand greatest autonomy in the area of course content and least in the area of controlling students.

Hypothesis 3

It is hypothesized that highly satisfied teachers will obtain lower need deficiency scores than will less satisfied teachers.

Hypothesis 4

Teachers in schools where there is high standardization will obtain higher need for autonomy scores than teachers in schools where there is low standardization when the effects of sex, training and experience have been statistically controlled.[67]

Hypothesis 5

Teachers in schools where there is high standardization will obtain lower need fulfillment scores than teachers in schools where there is low standardization when the effects of sex, training and experience have been statistically controlled.

Hypothesis 6

Teachers in schools where there is high standardization will have higher need deficiency scores than teachers in schools where there is low standardization when the effects of sex, experience and training have been statistically controlled.

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[67] In this paper, the phrase "statistically controlled" means that sex, years of professional and academic training, and years of experience were free to absorb criterion variance, and the influence of the dependent variable on the remaining variance was being tested.

Hypothesis 7

Teachers who score high in dogmatism will obtain lower need for autonomy scores than teachers who score low in dogmatism when the effects of sex, experience and training have been statistically controlled.

Hypothesis 8

Teachers who score high in dogmatism will obtain higher need fulfillment of autonomy scores than teachers who score low in dogmatism when the effects of sex, experience and training have been statistically controlled.

Hypothesis 9

Teachers who score high in dogmatism will obtain lower need deficiency of autonomy scores than teachers who score low in dogmatism when the effects of sex, experience and training have been statistically controlled.

Hypothesis 10

Fulfillment scores of teachers are a function of the extent of standardization of a school and the dogmatism scores of teachers when the effects of sex, experience and training have been statistically controlled.

Hypothesis 11

Need for autonomy scores of teachers are a function of the extent of standardization of a school and dogmatism scores of teachers when the effects of sex, training and experience have been statistically controlled.

Hypothesis 12

Deficiency scores of teachers in the area of need for autonomy

are a function of the extent of standardization of a school and the dogmatism scores of teachers when the effects of sex, experience and training have been statistically controlled.

CHAPTER III

REVIEW OF THE RESEARCH LITERATURE

In this chapter, a number of recent studies which have relevance to this project are reviewed. The chapter begins with a review of studies which treated the school as a bureaucratic organization. Following this, some studies in the area of attitudes toward autonomy, and dogmatism of teachers are reviewed.

I. THE SCHOOL AS A BUREAUCRATIC ORGANIZATION

A review of recent studies in the field of educational administration reveals two basic ways of treating the school as a formal organization. The first is to investigate the extent to which the school conforms to the Weberian ideal of a bureaucratic organization; the second is based on an examination of the school to discover the mechanisms by which the work of specialists and professionals is coordinated and controlled. Examples of these two patterns follow.

The School as a Bureaucratic Organization

A number of studies have attempted to measure the extent to which schools conform to the bureaucratic model as defined by Weber.[1] These

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[1] Max Weber, The Theory of Social and Economic Organizations, T. Parsons and A. M. Henderson (trans.), T. Parsons (ed.) (London: William Hodge and Company, 1947).

studies have been patterned after one by Richard Hall[2] in which he developed an instrument to measure bureaucracy in commercial and governmental organizations. The rationale of the instrument was derived from Weber's discussion of bureaucracy.

Hall's instrument provided six sub-scales which were designed to reflect the perceived degree of bureaucratization along six bureaucratic dimensions. The sub-scales chosen were:

1. hierarchical authority
2. specialization
3. rules for incumbents
4. procedural specifications
5. impersonality
6. technical competency.

Hall's instrument was adapted for use in schools, in two studies conducted at the University of Alberta by MacKay[3] and Robinson[4].

Their studies indicated that schools do exhibit bureaucratic tendencies. However, they found that bureaucracy is not unidimensional; two dimensions appeared to emerge. The first, which may be termed bureaucratic, included the sub-scales of hierarchical authority, rules, procedural

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[2]Richard H. Hall, "An Empirical Study of Bureaucratic Dimensions and Their Relation to Other Organizational Characteristics" (unpublished Ph.D. thesis, Ohio State University, 1961).

[3]D. A. MacKay, "An Empirical Study of Bureaucratic Dimensions and Their Relation to Other Characteristics" (unpublished Ph.D. thesis, University of Alberta, Edmonton, 1964).

[4]N. A. Robinson, "A Study of the Professional Role Orientations of Teachers and Principals and their Relationship to Bureaucratic Characteristics of School Organizations" (unpublished Ph.D. thesis, University of Alberta, 1966).

specifications, and impersonality; the second, referred to as rational, included the sub-scales of specialization and technical competence. The bureaucratic scales emphasize regulations and control; the rational scales emphasize the competence of the trained person, who is able to exercise professional judgment in his spheres of competence. This finding supports Udy's earlier findings.[5] Robinson, using a revised version of MacKay's adaptation of Hall's Organizational Inventory, found that scores on the two rational sub-scales were negatively correlated with the scores on the other four scales. This finding suggests that the schools will either tend toward a high degree of standardization (bureaucratic dimension) or toward greater autonomy for teachers (rational dimension).

Two other findings are significant in relation to the present study. MacKay found no relationship between hierarchical position and perception of bureaucracy. This supports the assumption that the perception of the principal concerning the extent of standardization in his school will not be consistently distorted. Finally, Robinson found that the degree of bureaucratization in elementary schools did not significantly differ from that in other kinds of schools, although the elementary schools did generally report lower scores on bureaucratization. Thus, elementary schools should not differ greatly from other types of schools.

The MacKay and Robinson studies are examples of research designs which investigated the extent to which schools conformed to the bureau-

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[5]Stanley H. Udy, "Bureaucracy and Rationality in Weber's Organization Theory: An Empirical Study," American Sociological Review, XXIV (December, 1964), pp. 791-794.

cratic model. The following study by Keene also studied the school as a formal organization, but from a somewhat different theoretical perspective.

The Keene Study

Blau's model of complex organizations which include specialists[6] provided the theoretical framework for Keene's study at Washington University.[7] He studied differences in schools as they increased in size (in terms of full-time staff members) from ten to over 100. Larger schools were found to have a more intricate pattern of organizational complexity and division of labor, plus greater coordination of work. He defined coordination in two ways -- a non-specialist (administrator) coordinates the work of the specialists (teachers); or, written plans, rules and regulations which impose standardization in a more impersonal manner. Keene's detailed analysis of the practices in the schools indicated that both methods of coordination increase (especially coordination by standardization) as schools increase in size.

Measures of division of labor and organizational complexity were achieved by computing ratios of the number of courses offered within one subject field, and of the number of teachers with the number of specialist teachers and so on.

Through a documentary survey and through interviews with the twelve principals, Keene was able to describe the schools to a panel of judges. These judges rated the schools according to the criteria supplied by Keene.

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[6]Peter Blau, Bureaucracy in Modern Society (New York: Random House, 1956), pp. 17-19.

[7]Roland Keene, "Operational Freedom in Complex Organizations" (unpublished Ed.D. thesis, Washington University, 1962).

His findings suggest that in those areas where the professional competence of teachers is involved, there tends to be less standardization. For instance, the judges' ratings indicated that there was least standardization in the area of selecting course content, and progressively more in the areas of pupil evaluation and control and discipline of students.[8]

The study also indicated that there is generally an equilibrium of forces between the demands of the organization and the demand for professional autonomy. As the size of schools increases, with consequent greater need for coordination, the qualifications of staff also rises, with the concomitant desire for greater autonomy. That is, the discretion of the teachers who are probably the most competent is most highly prescribed.

Keene then asked about the reactions of teachers to such limited professional autonomy. Although he was unable to pursue this question to the depth it required, the results of group interviews with four teachers from each school suggested that informal norms and colleague support preserved sufficient autonomy for the teacher.[9] The exception to this general rule was the largest school, where he detected a feeling of powerlessness and resignation among the teachers.

The importance of Keene's study chiefly lies in its attempt to investigate organizational variables which are directly related to the teaching process. He also suggested some social-psychological insights which are worthy of further research.

It was decided to utilize portions of Keene's methodology for three

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[8]The first hypothesis of the present study is designed to test Keene's finding in an elementary school setting.

[9]A major aim of this study is precisely to examine in greater depth the attitudes of teachers in different environments.

reasons. His method of obtaining standardization scores for each school did not depend on the perceptions of teachers; since the present study looks at the interaction of teacher-attitudes and standardization of schools, the possibility of circularity is avoided. Secondly, it was felt that the interview technique allowed the investigator to concentrate on factors which directly affected the teaching process, to the exclusion of other factors considered in the Weberian model such as conditions of appointment of teachers, and promotion of teachers. Finally, for the purposes of this study, it was felt that the Blau model of complex organizations which was used by Keene, was more appropriate than the framework adapted by Hall, because Blau's theory focuses on the coordination and standardization of practices which exist in organizations.

II. ATTITUDE STUDIES

A major emphasis in this study is the attitudes of teachers concerning authority and autonomy. The following reviews four studies concerning the parallel needs for independence of various other kinds of workers in the performance of their tasks.

Vroom: Industrial Workers

Vroom studied the effect of participation, that is, the opportunity and ability of subordinates to participate in decision-making, on attitudes and motivation.[10] The design of one section of his study correlated participation with satisfaction when (1) workers differed on needs of independence, and (2) workers differed on authoritarianism. The higher the need

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[10]Victor H. Vroom, Some Personality Determinants of the Effects of Participation (The Ford Foundation Doctoral Dissertation Series; Englewood Cliffs, N.J.: Prentice-Hall, 1960).

for independence and the lower the authoritarian score, the more significant were the correlations. However, he also concluded that need for independence and authoritarianism were independent (unrelated) variables.

The present study looks at some of the same variables. Vroom's variable, the "need for independence", is measured in a similar manner to the measure of need for autonomy in this study, although Vroom's concept is a generalized need rather than a need in a specific area. His measure of participation is very similar to the measure of fulfillment used in this study also. His concept of attitude toward the job is basically a measure of satisfaction.

Vroom's results suggest that participation in decision-making has a favorable effect on attitudes toward the job of low authoritarians who have a strong need for independence. On the other hand, high authoritarians with low need for independence are apparently unaffected by participating in making decisions.[11] This serves as further basis for the hypothesis that open-minded teachers in low standardization schools would have higher satisfaction ratings or lower need deficiency scores (Hypothesis 12).

Farris: Researchers

Farris, following the theoretical speculations of Argyris,[12] studied the relationship of congruency of individuals' need and the demands of the

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[11] Ibid., p. 37.

[12] Chris Argyris, Personality and Organization (New York: Harper, 1954).

organizations with performance and motivation.[13] The theory was that the interaction of a personality factor (desire for autonomy) and an environmental factor (organizational control) could predict performance. A measure of congruency was obtained by asking a sample of 513 scientists how important a characteristic was to the individual in his job situation, and then asking what provision was made for that characteristic in his present position.

Unfortunately, in the analysis, the results concerning need and provision for professional freedom were not discussed individually, but were lumped together with a group of items called "self-actualization".

The significance of the study is the successful use of the concept of congruency to predict motivation and effectiveness, and the suggestion that congruency is in fact an indirect but valid measure of satisfaction. Some limitations are that the investigator did not test the assumption that congruency equals satisfaction nor did he compare the perceived organizational provisions with a more objective measure. Finally, he did not attempt to control basic personality needs in any way.

Porter: Managers

Porter used Maslow's[14] conceptions as a basis to analyse five basic needs of managers which are fulfilled or not fulfilled in their management positions.[15] The degree of need was ascertained by asking each executive

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[13] G. F. Farris, "Congruency of Scientists' Motives with Their Organizations' Provisions for Satisfying Them" (unpublished paper, University of Michigan, 1962.)

[14] A. H. Maslow, Motivation and Personality (New York: Harper and Row, 1954).

[15] Lyman B. Porter, Organizational Patterns of Managerial Job Attitudes (New York: American Foundation for Management Research, 1963).

how much of the characteristic (e.g., security, or self-actualization) he thought should be connected with his present management position. The degree of fulfillment was similarly obtained by asking the manager how much that characteristic is provided for by his present position. A measure of need deficiency was obtained by subtracting fulfillment from need. Autonomy needs were conceived to consist of four factors: (1) the degree of authority connected with one's job; (2) the opportunity for independent thought and action; (3) the opportunity for participating in the determination of goals; and (4) the opportunity for participating in the determination of methods and procedures.

Porter's results, based on the responses of 1,916 managers, indicated that,as one progresses up the hierarchy, one's needs for autonomy increase and the need deficiency decreases. Persons holding line positions demand more autonomy and have lower deficiency scores than do staff officers. Size of organization was not an important factor.

The present study utilized the same concepts of need, need fulfillment, and need deficiency, but will go further by relating them to the extent of standardization in schools and the personality of teachers.

Trusty and Sergiovanni: Teachers

Trusty and Sergiovanni recently replicated a portion of Porter's study in a school setting.[16] Two hundred twenty-three educators in one school district took part. The main hypothesis of the study dealt with

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[16]Francis M. Trusty and Thomas Sergiovanni, "Perceived Need Deficiences of Teachers and Administrators: A Proposal for Reconstructing Teacher Roles," Educational Administration Quarterly, II:3 (Autumn, 1966), pp. 168-180.

differences in perceived need deficiencies between groups of educators classified according to sex, age, experience and professional role.

Generally, the satisfaction of elementary teachers compared favorably with those of administrators; junior high school teachers were the least satisfied. Elementary teachers appeared to be most satisfied with the authority connected with their position and the opportunity for independence. They were less satisfied with their degree of participation in decision-making processes.

Teachers in the age-group 25-34 were most dissatisfied; the youngest (20-24) teachers reported the least deficiency of needs. Hypotheses related to experience were rejected, although trends which paralleled the findings related to age were noted. No relationships between sex and need deficiencies were discovered.

The results also indicated that the largest need deficiencies have to do with esteem, autonomy and self-actualization.

The successful use of this technique suggests that the method is applicable to the school situation and that these concepts may be fruitfully related to other personality and situational variables.

III. STUDIES RELATED TO DOGMATISM

A number of studies have verified the relationship between scores on the dogmatism (D) scale and each of the following: Leader-orientation,[17]

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[17] S. Zagona and L. Zurcher, "Notes on the Reliability and Validity of the Dogmatism Scale," Psychological Reports, XVI (1965), pp. 1234-1236.

high status-orientation, and conformity.[18]

A study by Croft of the dogmatism of teaching personnel and their perceptions of leader behavior of the principal did not yield significant relationships between dogmatism scores and perceptions of leader behavior as measured by the Leader Behavior Description Questionnaire (LBDQ).[19] He found teachers to be the most dogmatic; principals were the most open-minded and superintendents occupied a middle position.

Using the 20-item short form of the Dogmatism Scale, Childs compared teachers and administrators in innovative and non-innovative districts.[20] Teachers tended to score higher than administrators. Whereas the rate of teacher open-mindedness correlated with innovative districts, dogmatism of administrators did not.

Childs' findings suggest that open-minded teachers may consider themselves free to innovate and be creative, whereas closed-minded teachers, conforming to what they perceive are controlling regulations, do not feel secure enough to deviate, and therefore conform to the status quo.

Childs' study seems to confirm some earlier speculation by Rokeach. In Rokeach's experiments conducted to validate the dogmatism scale, extremely closed-minded subjects resisted change unless such change conformed

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[18]R. Vidulich and I. Kaiman, "The Effects on Information Source Status and Dogmatism Upon Conformity Behavior," Journal of Abnormal and Social Psychology, LXIII (1963), pp. 639-642.

[19]John C. Croft, "Open and Closed Mindedness and Perceptions of Leader Behavior" (unpublished doctoral dissertation, Penn. State University, 1964). Schools were grouped according to dogmatism scores of teachers and principals, and ranked according to average LBDQ Scores.

[20]John W. Childs, "A Study of Belief Systems of Administrators and Teachers in Innovative and Non-Innovative School Districts" (paper presented at the annual meeting of the American Educational Research Association, Chicago, Feb., 1966).

to the desires of an authority figure. In the so-called "Joe Doodlebug" problem, subjects were required to alter or overcome certain beliefs in order to solve the problem. This the very dogmatic subjects were unable to do. However, if they were given necessary hints for the working of each problem, they succeeded as well as other subjects. But the experimenter noted one important difference. The very dogmatic subjects accepted all the hints, whereas other subjects worked them through before accepting them.[21]

Rokeach concluded that extremely closed-minded individuals accept authority uncritically. They also are relatively inefficient in synthesizing because of the resistance due to the isolation among beliefs. These traits would preclude innovativeness.

The above studies suggest that dogmatism is associated with uncritical acceptance of authority, and an unwillingness or inability to work creatively. Thus, it may be that very dogmatic teachers will tend to accept the authority of superiors; that they will not have high needs for autonomy; and that they will perceive that their needs for autonomy have been fulfilled.

IV. SUMMARY

The above studies have been cited to establish the context of the present research and to provide additional support for the hypotheses. The present study is most closely related to two of these. The first portion of this thesis is a continuation of Keene's study; that is, it

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[21]Milton Rokeach, The Open and Closed Mind (New York: Basic Books, Inc., 1950), pp. 225-231.

pursues the interaction between the needs for autonomy of teachers and the extent of standardization in schools.

Similarly, the work of Porter, replicated by Sergiovanni and Trusty, has been adapted so that attitudes of teachers concerning need for autonomy can be more closely studied and related to standardization in the schools.

CHAPTER IV

INSTRUMENTATION AND DATA COLLECTION

The instrumentation in this study relies on various scales to obtain measures of the variables under study. The type of scales used are summated rating scales (also called Likert-type) which are sets of attitude items, all of which are considered to be approximately equal in value, and to which subjects respond with degrees of intensity. The purpose of the scale is to place an individual somewhere on a continuum with respect to the attitude in question.

In such scales, it is assumed that all items have equal weight; any subset of items is considered to be equal to any other subset, so that scores may be validly summated or averaged.

A second assumption is that the scale accurately measures the intensity of an attitude. Subjects can merely agree or agree strongly. Selltiz et. al. state that such scales do not claim to be more than ordinal scales[1] that is, they make possible the ranking of individuals, but do not provide a basis for inferring how much individuals differ. Nevertheless, most researchers feel confident enough to employ the use of parametric statistics which assume ratio scaling. Most of the statistical tests employed in this study assume an interval scale.

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[1]Claire Selltiz, et alia, Research Methods in Social Relations (revised edition; New York: Holt, Rinehart and Winston, 1959), p. 369.

I. TEACHER ATTITUDE QUESTIONNAIRE

Rationale

The definition for the concept, need for autonomy, which this scale purports to measure is drawn from Maslow.[2] Autonomy needs are conceived to be manifest in the teacher's reactions to four statements concerning the position currently held:

1. The authority connected with the position.
2. The opportunity for independent thought and action.
3. The opportunity for participation in the setting of goals (ends).
4. The opportunity for participation in the determination of methods and procedures (means to goals).[3]

In order to extend the number of items and to tap attitudes toward professional autonomy in instructional areas only (in contrast to generalized attitudes toward the position), the items were particularized to refer to specific areas, e.g.

Q. 5. How much authority do you now have in the selection of course content of the courses that you now teach?

The Scale

The scale, which appears in Appendix B, contains two sets of twelve items. The first set measures the extent to which teachers have authority or autonomy in instructional areas, which include the area of selecting

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[2]A. H. Maslow, Motivation and Personality (New York: Harper and Row, 1957), pp. 91-92.

[3]This framework was developed by Porter and used by Trusty and Sergiovanni. See Chapter III.

course materials and content, the area of evaluating pupils, and the area of controlling and disciplining pupils. This first section is labelled fulfillment of autonomy needs inasmuch as it purports to be a measure of the extent to which teachers do have professional autonomy.

The second set of twelve questions seeks to determine the extent to which teachers demand or feel a need for professional autonomy. The following is an example of a question in this set:

> Q. 22. How much authority do you think you should have in the area of controlling and disciplining students?

This section is labelled need for autonomy.

On the assumption that need will outweigh fulfillment, the fulfillment scores were subtracted from need scores to yield a measure of need deficiency, which is an indirect measure of dissatisfaction.

Validity

This scale claims to measure attitudes in a particular setting, rather than a generalized attitude. This, in addition to the fact that the items are based on Maslow's theoretical definition suggests that "face" validity may be claimed.

Scoring

Responses to each item were made on a scale numbered from one to five. The extremes were defined as "no freedom at all" and "complete freedom." Scores on the items of each set were summated and averaged. Deficiency scores were obtained by subtracting fulfillment scores from need scores.

II. DOGMATISM

The Instrument

The construction of the Dogmatism (D) Scale is described by Rokeach.[4] The Dogmatism Scale went through five editions, the final form yielded reliability coefficients of .68 to .93.

Rokeach had undertaken an extensive series of investigations aimed at testing his theory and the validity of his scale, using a variety of methods: known groups,[5] differences in problem-solving behavior,[6] and the relationship between dogmatism and the acceptance of new and unconventional music.[7] While the results of these studies were not always clear-cut, they furnished evidence of the validity of Rokeach's theoretical derivations and the validity of the D Scale.

A number of studies provide further behavioral validation. Zagona and Zurcher found that highly dogmatic persons tend to be leader-oriented,[8] and Vidulich and Kaiman found that dogmatic persons tended to agree with people of high status and to disagree with those of low status in laboratory experimental situations using autokinetic effect.[9]

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[4]Milton Rokeach, The Open and Closed Mind: Investigations into the Nature of Belief Systems and Personality Systems (New York: Basic Books, Inc., 1960).

[5]Ibid., Chapters V and VI [6]Ibid., Chapter XIV.

[7]Ibid., Chapter XV.

[8]S. Zagona and L. A. Zurcher, "Notes on the Reliability and Validity of the Dogmatism Scale," Psychological Reports, XVI (1965), pp. 1234-1236.

[9]R. N. Vidulich and I. P. Kaiman, "The Effects of Information Source Status and Dogmatism upon Conformity Behavior," Journal of Abnormal and Social Psychology, LXIII (1963), pp. 639-42.

Kerlinger and Rokeach recently conducted some experiments to test whether or not the D scale and the F (Fascist-authoritarianism) scale were measuring the same thing.[10] Their aims were to ascertain the factorial separability of the F and D scales, and to discover if the F and D scales were in fact measuring discrete variables or were they measures of the same variable. Using the 40-item F scale and the 40-item D scale on 1,239 subjects from various parts of the United States, they found evidence which supports the underlying theories of both scales.

Although the scores from the two scales did correlate (Pearson r's ranged from .65 to .77 with various samples; average r was .712), in the factor analyses, the F and D items loaded onto different factors (5 D factors, 3 F factors, and 2 mixed factors). The data demonstrated the factorial separability of the F and D scale items. "Fascistic authoritarianism and dogmatism, as measured, both seem to be part of one underlying unity, and at the same time, discriminable entities."[11]

> Rokeach's hypothesized variables emerge from the factor analysis rather well. The five D factors are characterized by item clusters that are readily labelled with Rokeach's variable names, even though his original categorizations are far too detailed to neatly fit these five factors.[12]

Short forms of the D scale. Rokeach's final scale was a 40-item scale. Schulze proposed a 10-item short form which he developed from the responses of college students.[13]

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[10]Fred Kerlinger and Milton Rokeach, "The Factorial Nature of the F and D Scales," Journal of Personality and Social Psychology, IV:4 (1966), pp. 391-99.

[11]Ibid., p. 397

[12]Ibid., p. 399

[13]Rolfe H. Schulze, "A Shortened Version of the Rokeach Dogmatism Scale," Journal of Psychological Studies, XIII (1962).

Troldahl and Powell later experimented with short forms of various lengths, using as respondents persons more representative of the general population than was Schulze's sample of college students. The 20-item scale which they developed was proposed to be a good predictor of the results that would be obtained using the original test. The correlation coefficient between the 20-item and 40-item scales was .95; the split-half reliability coefficient of the 20-item test was .79.[14] The 20-item short form of the D scale was used in the present study. The form used appears in Appendix B.

Scoring the D scale. In his experiments, Rokeach had asked respondents to agree or disagree with each statement on a scale ranging from -3 to +3 with the zero excluded. He then added a constant of 4 to each item, obtaining a range of 1 to 7.

Korn and Giddan investigated the scoring system of the D scale.[15] They discovered that the frequency of agree responses account for most of the variation in the composite scale score. The correlation between scores obtained by Rokeach's method and a simplified method which asked respondents to agree or disagree(simple dichotomy) was .94.

Guided by the results of the Korn and Giddan study, Hamilton asked his respondents to Strongly Agree, Agree, Disagree, or Strongly Disagree with each item and weighted the responses 5,4,2,1 respectively. He

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[14]V. C. Troldahl and F. A. Powell, "A Short-form Dogmatism Scale for Use in Field Studies," Social Forces, XLIV:2 (1965), pp. 211-15.

[15]Harold Korn and Norman Giddan, "Scoring Methods and Construct Validity of the Dogmatism Scale," Educational and Psychological Measurement, XXIV:4 (1964), pp. 867-874.

obtained a split-half reliability coefficient of .81[16] Hamilton's method of scoring was used in the present study.

III. TEACHER SATISFACTION QUESTIONNAIRE

The teacher satisfaction questionnaire purports to provide measures of the following variables:

(a) Global Satisfaction - the degree of satisfaction with the present teaching position in all its aspects.
(b) Social Satisfaction - the degree of satisfaction with the social relationships existing among the teachers.
(c) Policy Satisfaction - the degree of satisfaction with the educational policies of the school as compared to policies which the teacher feels to be most desirable educationally.
(d) Occupational Satisfaction - the degree of satisfaction with the occupation or profession of teaching as compared with financially equivalent non-teaching occupations involving the use of the teacher's present academic training. The degree of satisfaction is inferred from the expressed degree of consideration a teacher would give to a non-teaching job opportunity.
(e) Alternative Employment Perception - the extent to which a teacher feels that non-teaching jobs are available for persons of his sex and training.
(f) Conformity Pressure - the extent to which a teacher feels the pressure to conform to the school's educational policies. The degree of pressure felt by the teacher is inferred from the extent to which he feels that the administration is receptive to criticism of the school's educational policies.

The instrument was first used in a study at the University of Chicago by Andrews.[17] A later study by Von Fange[18] at the University of Alberta found significant relationships between teacher satisfaction, as

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[16]William L. Hamilton, "The Perception of Problems Associated with Inter-Group Relations in Integrated Schools" (unpublished M.Ed. thesis, University of Alberta, 1966).

[17]John H. M. Andrews, "Administrative Significance of Psychological differences Between Secondary Teachers of Different Subject Matter Fields" (unpublished Ph.D. thesis, University of Chicago, 1957).

[18]Erich Alvin Von Fange, "Implications for School Administration of the Personality Structure of Educational Personnel" (unpublished Ph.D. thesis, University of Alberta, 1961).

measured by the Myers-Briggs Type Indicator.

The scale is comprised of six items, one item to measure each of the above six factors. Each item has five ordered statements, and the respondent is asked to select the statement which best describes the school.

Each item is scored as a Likert-type scale, with a range of one to five. The scores are summed yielding a total satisfaction score which may range from six to thirty. Low scores indicate high satisfaction. A copy of the scale appears in Appendix B.

IV. THE SAMPLE

Schools

Thirty-two superintendents in central Alberta were asked to submit the names of schools in their districts which conformed to the following criteria:

(1) the principal of the school had been in present position at least since the 1964-65 school year;

(2) there were at least ten teachers in the school;

(3) the school was organized as an elementary school (elementary-junior high schools were acceptable substitutes if necessary).

Superintendents were also asked to indicate whether or not the operations of a school were routinized to a high degree and regulations were strictly enforced. A school with highly standardized operations was designated as a "Type X"; other schools were "Type Y". The superintendents were asked to list two schools of each type. This last instruction was employed in an attempt to obtain a diverse sample with respect to the extent of standardization in the schools; superintendents' ratings were not used

in the analysis of the data.

All but one superintendent replied. Two refused to cooperate; eight said they had no schools which met all criteria; and the remaining twenty-one submitted the names of one to four schools each.

Some of the schools suggested by their superintendents were rejected because they failed to meet the criteria: some were organized on a grade 1-12 basis; others had fewer then ten teachers. Thirty schools were considered to be suitable.

Of these thirty schools, seventeen agreed to take part in the study: eight urban schools, and nine rural schools; seven which were rated as "highly standardized" by their superintendents, and nine rated as "less standardized." Since it had been decided that a sample of fifteen schools would be sufficient for the study, it was decided to eliminate two schools. In selecting the final sample, schools were chosen so that a "highly standardized" school was paired with a "less standardized" school from the same or a similar superintendency.

The final sample was composed of eight schools from the three largest cities in central Alberta, and seven schools from smaller cities, villages, and towns. Of the eight schools from large urban cities, four were part of the Roman Catholic separate school systems. Table I refers to the distribution of schools.

Teachers

This sample of schools employed 300 full-time teachers; 255 (or 85%) completed usable questionnaires. Since four schools in the sample were elementary-junior high schools, 39 respondents were junior high school

TABLE I

SCHOOLS IN THE SAMPLE ACCORDING TO TYPE

Superintendent's "Type" Designation	Large Urban Areas		Small Urban and Rural Areas
	Public	Catholic	
Highly Standardized "Type X"	2	2	3
Less Standardized "Type Y"	2	2	4
	4	4	7

teachers. These were excluded. The final sample consisted of 216 full-time elementary school teachers.

Table II shows the distribution according to sex and marital status. Twenty-two teachers were males; one hundred ninety-four were women. There were fifty-six single teachers, one hundred fifty-one married teachers, and nine were widowed, separated or divorced.

The number of years of training beyond grade twelve and years of teaching experience were also ascertained. Twenty were first year teachers; forty-three had taught between 2 and 4 years; forty-eight had taught between 5 and 9 years; seventy-three between 10 and 19 years; and thirty-two had taught for 20 years or more. Seventy-two teachers had one year or less of professional and academic training beyond grade twelve; seventy-seven had 2 years; thirty-two had 3 years (the time normally required to obtain a first degree); thirty had 4 years; and four had 5 or more years of training. Table III indicates the distribution according to training and experience.

Principals

No personal data were obtained from the principals. However, all had held their present position for more than two years; all but one were male.

V. THE PILOT STUDY

A pilot study was conducted in a suburban elementary-junior high school. The recorded interview with the principal made it possible to evaluate technique and pace, and the phrasing of questions.

TABLE II

DISTRIBUTION OF TEACHERS ACCORDING TO SEX AND MARITAL STATUS

	Single	Married	Other	Total
Male	5	16	1	22
Female	51	135	8	194
	56	151	9	216

TABLE III

TEACHER EXPERIENCE AND TRAINING

Experience	M	F	Total	Training	M	F	Total
1 year	2	18	20	1 yr. or less	2	71	73
2 - 4 years	12	31	43	2 years	7	70	77
5 - 9 years	3	45	48	3 years	5	27	32
10-19 years	3	70	73	4 years	6	24	30
20 yrs. or more	2	30	32	5 yrs. or more	2	2	4
Total	22	194	216		22	194	216

Approximately thirty teachers completed the questionnaires. Conversation with several members of the staff indicated that the instructions were easily understood. The data from the pilot study were checked, the answer sheets were scored, and the computer programs were tested. The resulting scores, and the reactions of the teachers indicated that there was no reason to alter either the questionnaire or the procedure in any way.

None of the data collected in the pilot study was used in any of the analysis.

VI. DATA COLLECTION

The principal of each cooperating school was telephoned to arrange an appointment for an interview. At the same time, arrangements were made to deliver the questionnaires to the teachers.

Interviews

An interview, which lasted from one to two hours, was held with each principal. The purpose of the interview was to obtain verbal descriptions of the procedures and practices that are pertinent to the standardization of teachers' activities. In each of the areas under study, the detail of task circumscription, the provision for contingencies, and the extent to which teachers were obliged to follow the specification were ascertained; the degree of influence of teachers in establishing the standardizing device, and the extent to which regulations were actually enforced were also discussed.

At the time of the interview, principals made available certain documentary materials to the investigator, such as report card forms,

school handbooks,and memos concerning pupil-disciplinary regulations, administrative bulletins, evaluation and testing procedures, and other related topics.[19]

All but one of the interviews were recorded on tape.

As a result of each interview, and the examination of school documents, the investigator wrote descriptions of the administrative regulations and procedures in each school. The descriptions were given to ten judges who rated each school on the relative amount of autonomy which they felt was accorded the staff members in each of the three areas under investigation.

Teachers

Each teacher received an envelope containing instructions, questionnaires, and IBM answer sheet. Junior high teachers identified themselves by writing the words "Junior High" on the outside of the envelopes. These were set aside for later analysis. Questionnaires were either collected by hand or returned by mail.

The teachers placed all responses on IBM answer sheets which were scored by an IBM 1260/534 Optical Scorer, punching all scores in code form. A FORTRAN program to decode the scores and provide needed totals and averages[20] was used to obtain an output which could be used with any standard FORTRAN program.

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[19]The format, structure, and purpose of the interview in this study was similar to that of Keene. See R. Keene, "Operational Freedom in Complex Organizations" (unpublished D.Ed. thesis, Washington University, St. Louis, Mo., 1962), pp. 60-64 and Chapter III of this report.

[20]This program was written by Walter Muir, Division of Educational Research Services, Faculty of Education, University of Alberta.

CHAPTER V

GROUPING THE SCHOOLS ON THE BASIS OF STANDARDIZATION

The aims of this chapter are as follows: (1) to describe the procedure for the grouping of schools according to the extent of standardization which existed in each school; and (2) to describe each of the four classifications into which the schools were divided.

I. PROCEDURE FOR GROUPING OF SCHOOLS

With the information supplied by the interviews, and the examination of various school documents, three-part descriptions of each school were written. The first part dealt with practices concerning course content; the second with evaluation of pupils; and the third with control and discipline of students. Each of these three areas, for each school, was described on a separate page. At the bottom of each page was placed a graphic rating scale or line, sectioned into twenty parts, and numbered from zero to twenty. The lower end of each line was labelled "Complete Limitation" and the higher end "Complete Freedom." The descriptions were then separated into three sections (one for each of the three above areas), and each section was prefaced with a resume of the provincial regulations pertinent to that area.[1] A sample of the rating scale is located in Appendix D.

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[1]For readers not familiar with Alberta practices, a resume of such regulations is attached as Appendix F.

The Judges

Ten judges were selected from the staff and graduate students of the Faculty of Education at the University of Alberta. Each judge had had previous experience in elementary education.

Rating the Schools

Each judge received a package containing a set of instructions and forty-five pages of descriptions (three areas, for fifteen schools). Judges were asked to rate each school, one dimension at a time, by locating the school on the rating line at the bottom of the page. They were asked not to make any assumptions as to the distribution of scores. They were also cautioned against rating practices as good or bad, desirable or undesirable. The instructions to the judges are located in Appendix C.

Definition of Extremes

Definitions of the extreme left (zero) end, and the extreme right (twenty) end of each scale were provided to the judges. They are as follows.

Course content. Left end of the scale, denoted as Complete Limitation, is defined thus: course content is delimited through written specification of all materials to be covered, and their sequences in a detailed course of study; the specified textbook is to be covered as detailed in the course guide; no other materials may be added, and nothing deleted; there must be a written record of what has been taught; classes are visited regularly by administrators to check on progress; and the school or district administers common tests to all students to check on

coverage of material.

The right end of the scale, denoted as Complete Freedom, is defined in this way: the course title and a general statement of concepts to be developed or areas to be treated are the only specifications; if texts are provided, there is no requirement that the material be covered; there are no checks, no visits to see what is being taught, and no common examinations; the teacher may teach whatever materials that, in his judgment, are best.

Pupil evaluation. The left end of the scale, i.e. Complete Limitation, is defined as containing the following characteristics: symbols to be used in evaluation are specified and defined in detail; pass-failure is objectively defined; all marks are assigned as a result of standardized or "pre-normed" tests and the scores are automatic; there are instructions about the kind of records to keep, what kind of reports to make and what may go into those reports; nothing is left to the judgment of the teacher; tests are sent from a central office or are made by a committee; the marks are inspected to insure that the teachers have followed the specifications.

The right end of the scale, Complete Freedom, is defined as: the kind of evaluation is left up to the teacher entirely; there are no instructions concerning symbols or awards; if marking symbols are specified they are not defined; the teacher can evaluate the pupil at any time and report the results verbally, by letter, or in any manner; the teacher is required only to notify the office when a pupil has completed his course.

Control and discipline of pupils. The left end of the scale, Complete Limitation, is defined thus: the kinds of behavior required of the pupil and the circumstances to which they are appropriate are defined objectively in detail and in writing; the various kinds of discipline cases and the appropriate teacher action in each case are also defined in a similar manner; the teacher is required to act in specified manners and he must report his action to the proper authority; observation and inspection insure performance.

The right end of the scale, Complete Freedom, is defined as: the kind of behavior required of the pupil is left to the discretion of the teacher, as well as the action the teacher takes if the expected behavior is not forthcoming; the teacher is the complete judge of the behavior and the appropriate action; no reports are required; if the teacher wants help, he asks for it.

Scoring

The ratings of each judge for each school on the three areas were summed and then ranked. Thus, ten sets of rankings were obtained. The agreement or concordance between the ten sets was measured by the Kendall Coefficient of Concordance (W).[2] The resultant rankings of the schools are shown in Table IV. The obtained value of W is .688.[3] This statistically significant value for W indicates considerable agreement between the judges. It does not refer to the "correctness" of their decision, but

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[2] G. A. Ferguson, Statistical Analysis in Psychology and Education (Toronto: McGraw-Hill, 1959), pp. 186-189.

[3] $p < .001$.

it suggests that they were all guided by the same criteria.

Labelling and Grouping of Schools

The schools are labelled by their rank number. On the basis of the rankings, and taking into consideration the sum of ranks and total scores assigned to each of the schools by the judges, it was decided to divide the schools into four groups, as follows: Group I (very low standardization) includes the schools ranked 1 to 4; group II contains schools ranked 5 to 8; group III, 9 to 12; and, group IV (very high standardization) includes the three schools ranked 13, 14, and 15. Table IV indicates the groupings, the number of teachers in each group, and certain characteristics of the schools.

II. DESCRIPTIONS OF THE FOUR GROUPS OF SCHOOLS

Group I: Very Low Standardization

This group includes both the largest school (school 2) and the smallest (school 3) in the sample.

The teachers are free to deviate from the official course guides. In two schools the staff plays a large role in the selection of texts. The other two schools are part of a large school district which supplies identical sets of texts to all teachers. However, these schools have made the library the center of the school; pupils are trained in "independent learning" techniques, and the official texts are rarely used.

In these four schools, principals do not or cannot check on the work of teachers. There are few school-wide or district-wide tests; teachers alone are responsible for the methods they use to assign marks.

TABLE IV

RANKING AND GROUPING OF SCHOOLS ON THE BASIS OF STANDARDIZATION

Group	School	Sum of Judges' Scores	Sum of Ranks	Grades Taught	Number of Teachers	Number of Returns
I	1	449	15	1-9	18	
(very low	2	392	28.5	1-9	31	
standard-	3	385	35	1-6	10	59
ization)	4	375	36.5	1-6	26	
II	5	318	68	1-6	15	
(low	6	301	77	1-6	29	
standard-	7	293	83	1-6	23	65
ization)	8	276	86.5	1-9	20	
III	9	267	92.5	1-6	17	
(high	10	266	92.5	1-6	17	
standard-	11	252	93	1-9	20	59
ization)	12	235	108	1-6	12	
IV	13	198	123.5	1-6	17	
(very high	14	197	129.5	5-9	29	33
standard-	15	198	131.5	1-5	16	
ization						
Total					300	216[a]

[a]In addition there were 39 returns from junior high school teachers. Only usable returns from elementary teachers are listed here.

Generally, there are few rules for the conduct of pupils and principals will discipline students only if a request is made by a teacher.

Group II: Low Standardization

In these schools, either the teachers as a group select the texts to be used or the school board provides several sets of texts for each course.

The curriculum guides are followed quite closely except in schools where groups of teachers meet to coordinate their planning. Teachers in all schools in group II must make long-range plans.

The school districts provide sets of standardized achievement tests; the teachers may or may not use these as they wish. The principal seldom visits classrooms while classes are in session.

Although various grading systems are used, they are uniform within each school. Teachers are asked to control to some extent their distribution of marks.

There is no pattern in practices concerning discipline and control of students, although teachers in all schools have considerable freedom in this area.

Group III: High Standardization

Schools from each of the large cities are included in this group; the fourth school is a non-city school.

In general, the staff of each school must follow the curriculum quite closely. Teacher-groups coordinate planning and prepare common term-tests. The practices concerning the selection of texts are varied; there is no

one pattern. The principals check lesson-planning, testing and they regularly visit classrooms.

The administrators (principal and/or superintendent) in three of these schools attempt to control class averages and the distribution of marks.

These schools have more extensive rules for the deportment of students and regular methods of rewarding and punishing students.

Group IV: Very High Standardization

This last group is composed of one urban and two suburban schools.

In each case there were complete written regulations which further delimit the Program of Studies; changes in the curriculum may be made only after discussion with the principal or other higher official. Most testing is on a school-wide or district-wide basis. The "normal-curve" is used to control the distribution of marks. Teachers are required to prepare both long-range and daily plans; both sets are checked by the principal or superintendent. Principals inspect classroom instruction.

In these schools, policy handbooks list rules for the conduct of students and regulations governing the actions of teachers in the area of pupil-control. For example, the use of the strap is carefully controlled; it may be used only in an administrator's office and usually only after the problem has been carefully documented.

Discussion

A number of observations may be made at this point since they relate, at least indirectly, to the problem.

There did not appear to be any obvious relationships between standardization and school organization. Every group contained both elementary schools and elementary-junior highs. Neither the size of a school, nor the size and type of a school district was related to the extent of standardization in a school. All groups contained schools from both city and non-city districts.[4] Although this observation may be contradictory to the results of other studies, the small sample and the narrow range of size of schools precluded meaningful comparisons.

The policies and practices of school boards and superintendents were pre-disposing factors. For example, schools 9, 13, 14, and 15 belonged to the two school systems which had the most highly structured policy and regulations manuals. Another important factor was the administrative style and educational philosophy of the school principal.[5] For example, schools 2 and 4 of group I and schools 8 and 11 of groups II and III respectively, were all part of the same school district; similarly, schools 5 and 12 were from one district.

Two key factors which seemed to account for the differences between

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[4]A similar finding was reported by E. A. Mansfield, "Administrative Communication and the Organizational Structure of the School" (unpublished manuscript, University of Alberta, 1967). In a study of forty-two schools in three Western Canadian cities, he found that size, location, socio-economic status, and type of administrative structure of a school bore no relationship to the bureaucratic rating of a school. The only significant factor was teacher-pupil ratio, suggesting that bureaucracy in a school is a response to the need for the control of pupils.

[5]Keene also drew this same conclusion. See R. Keene, "Operational Freedom in Complex Organization" (unpublished D.Ed. thesis, Washington University, St. Louis, Mo., 1962).

schools were the supply of textbooks and the testing program. Those schools in which the teachers play a significant role in the selection of texts were rated as having less standardization.

In some schools, teachers selected the principal texts to be used from those authorized by the Minister of Education; in others, teachers had access to three or four sets of texts which had accumulated in the schools over the years; in yet others, there was a library sufficiently well equipped so that a teacher was relatively independent of one or several authorized sets of texts.

Evaluation procedures also seemed to account for a good part of the standardization in the schools. Those schools rated highest in standardization were the ones which made use of standardized achievement tests, maintained files of tests which were used year after year, and tied the results to some pre-determined score distribution.

At the same time, such schools also placed greater stress on both long-range and daily planning, classroom visits, preparation of group plans, and group-prepared tests. However, classroom visits by the principal seemed to be directed more toward observing the disciplinary techniques of teachers and "classroom climate" rather than toward observing what was actually being taught.

The third area, that of control and discipline of pupils, appeared to vary little from school to school. Although regulations in some districts were more explicit than others, actual practices within the schools differed little. Two key variations in this area dealt with the rules according to which corporal punishment might be administered, and the possibility of detentions after school or during recess.

This chapter has reviewed the process of classifying the schools into four groups on the basis of standardization practices. Certain characteristics of each of the four groups were noted and discussed, and some general observations were made.

CHAPTER VI

TREATMENT OF THE DATA

This chapter reports the scores achieved by teachers on the attitude, satisfaction and dogmatism scales, and outlines the statistical techniques used to test the hypotheses.

I. CRITERION SCORES: NEED, FULFILLMENT, AND NEED DEFICIENCY

Table V indicates the means and distributions of the scores. The average need score was 3.91; sub-score means ranged from 3.69 to 4.02. The average fulfillment score was 3.21; the sub-score means ranged from 2.81 to 3.42. The average need deficiency score was 0.71; need deficiency scores were obtained by substracting fulfillment scores from need scores. Each sub-score correlated highly with its total score; such correlations ranged from .75 to .85.

Teachers did not differ on any of these scores when they were divided according to sex, years of experience, or number of years of education.

Need and Fulfillment scores are positively related ($\underline{r} = .41$) as are Need and Need Deficiency scores ($\underline{r} = .32$). However, Fulfillment and Need Deficiency scores are negatively related ($\underline{r} = -.74$).[1]

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[1] These are Pearson $\underline{r}$'s. The three correlations are significant ($p < .01$, two-tail test.)

TABLE V

MEANS, STANDARD DEVIATIONS AND SUBSCORE-TOTAL CORRELATIONS FOR NEED, FULFILLMENT, AND DEFICIENCY SCORES OF TEACHERS

Variable	Mean	s.d.	Sub-score r with total
Need			
Total	3.91	.47	
Course Content	3.69	.62	.78
Evaluation	4.02	.55	.85
Discipline	4.02	.57	.79
Fulfillment			
Total	3.21	.66	
Course Content	2.81	.80	.75
Evaluation	3.39	.81	.82
Discipline	3.42	.88	.82
Deficiency			
Total	.71	.64	
Course Content	.88	.75	.79
Evaluation	.63	.75	.85
Discipline	.61	.84	.81

II. SATISFACTION SCORES

The satisfaction questionnaire contained six items which were scored on a scale ranging from 1 to 5; a high score of 30 indicated complete dissatisfaction. The teachers achieved a mean score of 17.45, and a standard deviation (s.d.) of 3.04. The distribution curves for both the total sample and the female sample were leptokurtic, while that of the male sample was positively skewed. Male teachers scored significantly higher than female teachers indicating that they were more dissatisfied. There were no differences according to education or years of experience. Table VI presents the findings. The Welch t-prime test used in the table corrects the degrees of freedom when the variances are unequal.[2]

Reliability of satisfaction questionnaire. A derivation of the Spearman-Brown formula which utilized item-test correlations was used to obtain a reliability coefficient. The procedure, described in Guilford,[3] was the following formula:

$$r_{tt} = \frac{n\bar{r}_{it}^{\,2}}{1 + (n - 1)\,\bar{r}_{it}^{\,2}}$$

where,

r_{tt} is the Spearman-Brown reliability coefficient

n is the number of items

$\bar{r}_{it}^{\,2}$ is the square of the average item-test correlation.

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[2]G. A. Ferguson, Statistical Analysis in Psychology and Education (Toronto: McGraw-Hill, 1959), pp. 143-145.

[3]J. P. Guilford, Fundamental Statistics in Psychology and Education (fourth edition; New York: McGraw-Hill, 1964), pp. 458-63.

TABLE VI

DISTRIBUTION OF SATISFACTION SCORES FOR THE TOTAL SAMPLE AND FOR GROUPS ACCORDING TO SEX

Group	Mean	s.d.	N	distribution	Welch t-prime
Total	17.45	3.04	216	leptokurtic	
female	17.26	3.04	194	leptokurtic	
male	19.18	2.42	22	positively skewed	3.43[a]

[a]Significant at .0004 level, one-tail test; the Welch t-prime test corrects the degrees of freedom when the variances are unequal. The corrected df here is 29.06.

For this sample, r_{tt} = .733, which is acceptable for use in a field of study such as this.[4]

III. DOGMATISM SCORES

The teachers in this sample obtained an average dogmatism score of 50.24 and a standard deviation of 8.65. Three groups of teachers were formed. The low dogmatism (open-minded) group had a range of scores from twenty to forty-four; the middle group had a range of scores between forty-five and fifty-four; the high dogmatism (closed-minded) group had a range of scores of fifty-five to seventy-four. Table VII shows the distribution of the three groups.

Reliability of the dogmatism scale. Employing the same formula as described on page 78, to test the reliability of the satisfaction scale, a Spearman Brown Split-half Coefficient of reliability of .79 was achieved.

Discussion of the Dogmatism Scores

Two other studies have been reported which utilized the same short form of the D scale and the same scoring system as this one. The first to use this procedure was Hamilton.[5] His sample of sixty junior-high school teachers from schools which included Indian pupils in the student body had a mean of 55.1, and a standard deviation of 9.23. This is significantly

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[4]A rule of thumb is that the minimum adequate level of reliability for group measurement is .50. See David Krech and Richard S. Crutchfield, Theory and Problems of Social Psychology (Toronto: McGraw-Hill Book Company, 1948), pp. 260-261.

[5]W. L. Hamilton, "The Perception of Problems Associated with Inter-Group Relations in Integrated Schools" (unpublished Master's thesis, University of Alberta, 1966).

TABLE VII

DISTRIBUTION OF DOGMATISM SCORES

Group	Range	N	Mean	s.d.
Low	20-44	61		
Middle	45-54	87		
High	55-74	68		
Total		216	50.24	8.65

TABLE VIII

COMPARISON OF DOGMATISM SCORES REPORTED BY HAMILTON, MANSFIELD AND THE PRESENT STUDY

Group	N	Mean	s.d.	F^1	t^1
Hamilton (Teachers)	60	55.1	9.63	n.s.	3.80[a]
Mansfield (Principals)	42	46.6	6.91	n.s.	2.56[b]
Present study (Teachers)	216	50.2	8.65		

[1]F and t tests between data in the present study and others.

[a]Significant at the .001 level, two-tail test.

[b]Significant at the .02 level, two-tail test.

higher than the mean in the present study.

Mansfield, whose sample was forty-two elementary school principals from three western Canadian cities, reported a mean of 46.62 and a standard deviation of 6.91.[6] This is significantly lower than the scores for the groups of teachers. The fact that principals score lower than teachers is also reported in studies by Childs[7] and Croft[8]. Table VIII shows the relationship between these dogmatism scores.

The reliability obtained in this study compares favorably with the split-half reliability of .81 reported by Hamilton,[9] and those reported by Rokeach.[10]

III. STATISTICAL TECHNIQUES

To test Hypothesis 1, which deals with the rank order of areas according to the extent of standardization, the scores that the judges assigned to each of the three areas in all schools were summed. The totals were ranked, and the ten sets of rankings tested using the Kendall Coefficient

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[6]E. A. Mansfield, "Administrative Communication and the Organizational Structure of the School" (unpublished manuscript, University of Alberta, 1967).

[7]John W. Childs, "A Study of Belief Systems of Administrators and Teachers in Innovative and Non-Innovative School Districts" (paper presented at the annual meeting of the American Educational Research Association, Chicago, Feb., 1966), mimeographed.

[8]John C. Croft, "Open and Closed Mindedness and Perceptions of Leader Behavior" (unpublished doctoral dissertation, Pennsylvania State University, 1964). It is also reported under the same title as U.S. Office of Education Cooperative Research Project, No. S-045.

[9]Hamilton, op. cit., p. 121.

[10]See Chapter II, above.

of Concordance (W) statistical technique.[11] The method not only yielded the total rank order of standardization in the three areas, but also gave a measure indicating the extent of agreement among the judges. The significance of W was tested using a chi-square technique.

Hypothesis 2, which deals with the rank order of teachers' needs for autonomy in the three areas, was tested in a similar manner. The teachers' ratings of needs in the three areas were ranked and the W statistic applied.

Multiple Linear Regression

The technique used in testing Hypotheses 4 to 12 was Multiple Linear Regression, which had been pioneered by Bottenberg and Ward.[12] Development of the method for use in educational research has been carried out by Hunka.[13] This powerful, yet conceptually simple, approach is based on the use of a linear combination of a set of vectors to construct regression models. Generally, assumptions underlying multiple linear regression are less restrictive than those of the classical models. For example, predictor variables in linear regression models are not assumed to come from multivariate normal distributions.[14]

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[11] S. Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill, 1956), pp. 229-238.

[12] Robert A. Bottenberg and Joe H. Ward, "Applied Multiple Linear Regression" (Lackland Air Force Base, Texas: 6570th Personnel Research Laboratory, 1963), mimeographed.

[13] S. Hunka, "Multiple Linear Regression--Student Notes" (Edmonton: Div. of Ed. Research Services, University of Alberta, 1965), mimeographed.

[14] Bottenberg and Ward, op. cit., p. vii.

The purpose of multiple linear regression technique is to determine whether or not a variable, when added to a linear expression, significantly reduces the criterion error sum of squares. For example, in testing Hypotheses 7, 8 and 9 which hypothesize relationships between dogmatism of teachers and their scores on the criterion variables, the relationship between criterion scores and the dogmatism of teachers is expressed in the following equation:

$$Y = f(\text{group } X1, \text{group } X2, \text{group } X3)$$

or

model 1: $Y = c + a1\,X1 + a2\,X2 + a3\,X3 + \text{error } (e)$,

where, Y is a vector of criterion variable data;

X1, X2, and X3 are vectors of 1's and 0's indicating the group membership of a teacher, where those with low dogmatism scores are in group 1, middle scores in group 2, and high scores in group 3;

a1, a2, and a3 are unknown weights associated with predictor variables;

e is an error or residual vector; and

c is a constant

The problem is to find a set of weights which minimize the sum of squares of the elements of vector e. Weights selected in this manner are the "least squares weights." The aim is to minimize the error sums of squares (ESS).

If dogmatism scores are not related to the criterion, then it may be assumed that the weights are equal, that is:

$$a1 = a2 = a3 = a.$$

Therefore, the restricted model[15] is:

Model 2: $Y = a(\mu) + e$

where, μ is the true mean.

Is there a significant loss of ability to predict performance if we ignore the existence of groups?

To answer this question, an R for each model is computed. R is similar to a Pearson r and has the same limits. The two R's are compared using the F statistic:

$$F = \frac{(R_1^2 - R_2^2)/df_1}{(1 - R_1^2)/df_2}$$

where, F is the F statistic;

R_1^2 is the squared multiple correlation, the "goodness of fit" of prediction for the first model;

R_2^2 is the "goodness" of prediction for the second model;

df_1 is the degrees of freedom for the numerator which are related to the number of variables which are free to vary;

df_2 is the degrees of freedom for the denominator (generally equal to $N - df_1$).

In order to compare this method with a classical one-way analysis of variance, the relationship between a classical partitioning of sums of squares and the R^2 is demonstrated.

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[15] In this report, model 1 is referred to as the full model; model 2 is the restricted model.

For N individuals in k groups, the total sums of squares (SS) is divided into two additive parts:

SS (total) = SS between groups (SSB) + SS within groups (SSW).

The degrees of freedom associated with SSB and SSW are k - 1 and N - k, respectively.

It can be demonstrated that--

$$R^2 = \frac{SSB}{\text{Total SS}}$$

therefore, $R^2 \times SS(total) = SSB$

and, $(1 - R^2) \times SS(total) = SSW$

The classical definition of the F-ratio is:

$$F = \frac{SSB/\ k - 1}{SSW/N - k}$$

For multiple linear regression,

$$F = \frac{(R_1^2 - R_2^2)/\ k - 1}{(1 - R_1^2)/\ N - k}$$

However, in the special case where R_2^2 equals zero, (when all means are set to μ), then

$$F = \frac{R_1^2/\ k - 1}{(1 - R_1^2)/\ N - k} = \frac{SSB/k-1}{SSW/N-k}$$

Hypotheses 4, 5, and 6 are tested in a similar manner. For these hypotheses, teachers are placed into four groups according to membership in the four groups of schools which are divided according to the extent of standardization, as rated by the judges. Group 1 denotes least standardization; group IV, the most.

Hypotheses 10, 11, and 12 are tested using a multiple linear regression technique which is analogous to a 4 x 3 two-way analysis of variance design. The purpose is to test for the effects of the interaction of dogmatism (rows) and extent of standardization (columns) on the criterion scores. Model 1 contains information concerning rows, columns, and cells:

$$\text{Model 1: } Y = c + a_{ij}X_{ij} + \ldots + a_{kn}X_{kn} + a_{il}X_{il} + \ldots + a_{ik}X_{ik} + a_{jl}X_{jl} + \ldots + a_{jn}X_{jn} + e,$$

where c is a constant

e is the error term

and a is a weight.

The second model contains information about dogmatism (rows) and standardization (columns) only and not about cells.

$$\text{Model 2: } Y = c + a_{il}X_{il} + \ldots + a_{ik}X_{ik} + a_{jl}X_{jl} + \ldots + a_{jn}X_{jn} + e.$$

In order to compare a classical analysis of variance design with the multiple linear regression technique, the following similarities are drawn.

Model	R^2	Classical Partitioning of SS	df
1	R_1^2	SSrows + SScolumns + SSinteraction	(R-1)(C-1) df_1
1	$1-R_1^2$	SSerror	N - RC df_2
2	R_2^2	SSrows + SScolumns	(R + C) - 2
1-2	$R_1^2 - R_2^2$	SSinteraction	df_1

The two methods of obtaining the F-ratio are similar, when,

$$F = \frac{(R_1^2 - R_2^2) / df_1}{(1 - R_1^2) / df_2} = \frac{SSinteraction / df_1}{SSerror / df_2}$$

It is relatively easy to compare the test for interaction of a two-way analysis of variance design with the similar test using multiple linear regression analysis.

In each case the value for F is the same; R_1^2 is the ratio of (SSrows + SScolumns + SSinteraction) / SStotal; $1 - R_1^2$ is the ratio of SSerror/SStotal; and $R_1^2 - R_2^2$ is the ratio of SSinteraction/SStotal. In each case the corresponding degrees of freedom are the same.

In the present study, the models are modified slightly so as to statistically control the effects of the sex, experience and years of education of teachers. Thus the actual models used are analogous to an analysis of covariance design. That is, to each model are added three vectors which represent continuous variables; these variables are free to absorb criterion variance introduced by these factors which are difficult to control in a field study.

This chapter has presented the raw scores of the teachers on the various questionnaires. Coefficients of reliability obtained in this study for the dogmatism and satisfaction scales were reported. The chapter concluded with a discussion of the major statistical techniques used in the study.

CHAPTER VII

ANALYSIS OF THE DATA

The purpose of this chapter is to report the results of the tests of the twelve hypotheses.

I. STANDARDIZATION AND TEACHERS' NEEDS FOR AUTONOMY IN THE THREE AREAS

Testing Hypothesis 1

The first hypothesis states that the rank order of standardization will be: pupil discipline (highest), pupil evaluation, and course content (lowest).

Procedure. The scores that each judge awarded to each area were ranked; these rankings were summed. Since the judges awarded scores on the extent to which teachers possessed autonomy, high scores indicate low standardization. A Kendall's W was used to test the degree of agreement among the judges. Table IX presents the results.

Findings. The area which is least standardized is the area of pupil discipline. This is demonstrated by the high sum of ranks. There does not appear to be much difference between the areas of pupil evaluation and course content.

The judges did not agree in their rankings as shown by the low value for W. Although the measure of the agreement among the judges (W) was not significant, the scores appear to differ. To test if there is a relationship

TABLE IX

SCORES[a] AND RANKS OF EXTENT OF STANDARDIZATION IN THE AREAS OF COURSE CONTENT, PUPIL EVALUATION AND DISCIPLINE ACCORDING TO TEN JUDGES

Judge	Course Content		Pupil Evaluation		Discipline		W
	Score	Rank	Score	Rank	Score	Rank	
1	156	3	151	1	153	2	
2	146	2	138	1	167	3	
3	163	3	123	1	162	2	
4	113	1	143	2	154	3	
5	131	2	100	1	154	3	
6	144	1	167	2	172	3	
7	106	1.5	106	1.5	164	3	
8	166	1.5	168	3	166	1.5	
9	145	2	171	3	144	1	
10	135	1	146	2	148	3	
Total	1405	18	1413	17.5	1584	24.5	.1525
	df 2		$\chi^2 = 3.04$		.30 > p > .20		

[a]low scores indicate high level of standardization

between the assigned scores and the three areas, the chi-square median test of independence was applied to the raw score data. The results were not significant. Thus the hypothesis must be rejected.

Discussion. The trend in scores is in reverse order to that hypothesized; it is also opposite to those reported by Keene.[1] Pupil discipline is not highly standardized in this sample of schools. The difference between the results of this study and those of Keene's may be due to the fact that Keene's sample was composed of high schools. It could be that adolescents in high schools require more rules to govern their behavior than do elementary school children.

The lack of agreement among the judges is in sharp contrast to their agreement in ranking the schools. Thus, although the methodology of this study was adequate to group schools according to the level of standardization, it was not precise enough to distinguish graduations in standardization from area to area. In contrast, Keene conluded that his judges could discriminate from area to area. However, there are some important differences. His study dealt with high schools, and the schools in his sample varied widely as to size.

Testing Hypothesis 2

This hypothesis states that teachers will have the highest need for autonomy scores in the area of course content and the least in the area of pupil discipline.

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[1]Roland Keene, "Operational Freedom in Complex Organization" (unpublished Ed.D. thesis, Washington University, 1962).

Procedure. Each teacher's score for each area was ranked 1, 2, or 3; the number 1 being assigned to the highest score. Since the computer program for the Kendall's W test could only accommodate up to 200 sets of ranks, the data of the twenty teachers from the school ranked seventh were removed, leaving a total of 196. It was felt that eliminating a school at or about the median when schools were ranked according to standardization, would not affect the results of this test.

The significance of the Kendall's W was tested using both the F-test and the χ_r^2 test.[2] Table X presents the results.

Findings. The scores listed in Table VI indicated that the mean need scores in the areas of evaluation and discipline were higher (both equal 4.02) than the mean score for course content (3.69). The results of the test for agreement among teachers, shown in Table X, is significant.

Discussion. The hypothesis is rejected. Teachers have expressed least need for autonomy in the area of course content, and greater needs in the areas of evaluation and discipline.

Further analysis. To study the problem further, the data for need fulfillment scores and need deficiency scores were similarly treated.

Need fulfillment scores are measures of the extent of freedom which teachers feel that their position affords them. The means reported in Table VI indicated that teachers perceived their greatest freedom in the area of discipline ($\bar{x}$ = 3.42) and successively less in the areas of

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[2]A. L. Edwards, Statistical Models for the Behavioral Sciences (New York: Rinehart and Co., 1952), pp. 410-412.

TABLE X

SUM OF RANKS, RANK AND KENDALL'S W OF NEED, FULFILLMENT AND DEFICIENCY OF AUTONOMY SCORES IN THREE AREAS

	COURSE CONTENT		EVALUATION		DISCIPLINE		W**
	Ranks	Rank*	Ranks	Rank	Ranks	Rank	
Need	314	3	433.5	1	428.5	2	.147
Fulfillment	294	3	433.5	2	448.5	1	.208
Deficiency	456	1	373.5	2	346.5	3	.099

*A rank 1 indicates high need, fulfillment or deficiency.

**For N=196, and df = 2, all W's are significant, $p < .001$.

evaluation (3.39) and course content (3.21). The rankings shown in Table X confirm this order. Further, the significant value for W indicates agreement among the teachers. One conclusion then, is that the expressed needs for autonomy of the teachers in this sample are strongest in just those areas where they feel their needs are being fulfilled.

Further insight is provided by an examination of need deficiency scores. The least deficiency occurs in the two areas of high need--evaluation and discipline (means of .63 and .61, respectively). The greatest deficiency is the area of course content ($\bar{x}$ = .88). Table X confirms the rank order; the value for W is significant. What is most significant is the fact that the difference between what teachers think should be (need) and what actually is (need fulfillment) is greatest in the area of course content and progressively less in the areas of pupil evaluation and pupil discipline. Thus, the order in which teachers demand more freedom than they now possess, is in the hypothesized direction--course content, pupil evaluation, and pupil discipline. Moreover, need deficiency scores are largest where the judges reported high standardization (course content) and need deficiency scores are lowest where the judges reported low standardization (pupil control).

Testing Hypothesis 3

In order to test the relationship which may exist between the teacher's satisfaction with his present position and the deficiency of autonomy needs, hypothesis three predicted that there would be a significant correlation between need deficiency scores and satisfaction scores of teachers.

Procedure. A Pearson product-moment correlation coefficient was computed for this set of scores.

Findings. The correlation (r = -.36) is significant beyond the .005 level (one-tail). Since low scores from the satisfaction scale indicate high satisfaction, the hypothesis that satisfaction and need deficiency are related is accepted.

Discussion. The findings state that there is a linear relationship between the two sets of scores. The degree of relationship between the two can be made more meaningful if one thinks in terms of r^2. A correlation of .36 indicates that 13% of the variance of one variable is predictable from the variance of the other.

In this case, the correlation of .36 may be an under-estimate. Ferguson states that although it need not be assumed that the distributions of the two variables are normal, the two distributions should be similar.[3] For this sample, the distribution of satisfaction scores was leptokurtic, while that of the deficiency scores was negatively skewed. Thus, some part of the departure of the correlation coefficient from unity resulted because of the different shapes of the two distributions. Therefore, the true correlation is probably somewhat higher than that reported here.

Summary

Three hypotheses were tested: two dealt with the rank order of standardization of the three areas in schools; the third tested the

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[3] G. A. Ferguson, Statistical Analysis in Psychology and Education (Toronto: McGraw-Hill Book Company, 1959), p. 110.

relationship between need deficiency scores and teacher satisfaction.

The results of the first two hypotheses may be organized in the following manner:

	Course Content	Evaluation	Discipline
Judges' Rating	high standardization	high standardization	low standardization
Need Scores	low need	high need	high need
Fulfillment Scores	lowest	moderate	highest
Need Deficiency Scores	highest	moderate	lowest

The judges and the teachers appear to agree on the rank order of standardization in the schools if need fulfillment scores are considered to be complementary to the extent of standardization. Need deficiency scores are greatest where the level of standardization is highest and where fulfillment scores are lowest.

Two questions may be asked concerning need scores: Are these the genuine rank order of teachers' needs and therefore are the levels of standardization in schools in part the result of teachers' striving to satisfy these needs? or Are the needs reported here an example of resolving cognitive dissonance[4] in which teachers claim to have such needs because these are the needs for which the organization provides? The progression of need deficiency scores does not seem to favor either question.

Finally, need deficiency scores bear a significant linear negative relationship to satisfaction scores.

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[4]Leon Festinger, A Theory of Cognitive Dissonance (Stanford, Cal.: Stanford University Press, 1956).

The question of the relationships which exist between the attitudes of teachers (needs, need fulfillment, and need deficiency) and standardization are further explored in the next section.

II. TEACHERS' ATTITUDES AND GROUPING OF SCHOOLS ACCORDING TO STANDARDIZATION

For the next three tests, teachers were grouped according to the extent of standardization which exists in their schools as determined by the judges' ratings.

Testing Hypothesis 4

This hypothesis predicted that as standardization in schools increased, need for autonomy scores of teachers would also increase when the effects of sex, experience, and training were controlled.

Procedure I. Multiple linear regression models were constructed to determine the contribution of the predictor--'membership in a school which is more or less standardized,' Teachers are placed in one of four groups in the first or full model; the second or restricted model ignores group memberhip. In each model there are also three continuous predictors which control the effects of sex, experience, and education of teachers. The two models are as follows:

Model 1: $Y = A1X1 + a2X2 = a3X3 + a4X4 + a5X5 + a6X6 + a7X7 + e1,$

Model 2: $Y = a1X1 + a2X2 + a3X3 + e2,$

Where, Y is a vector of need scores;

X1, X2, and X3 are vectors of scores indicating sex, years

of teaching experience, and years of education, respectively;

X4, X5, X6, and X7 are vectors of 0's and 1's representing mutually exclusive categories which indicate the group of schools to which a teacher belongs;

a1....a7 are a set of weights selected such that the sum of the squared errors is a minimum;

and, e1 and e2 are vectors of error terms.

The two models are compared using the F-statistic which assumes that the error terms in the two models are normally distributed and independent of each other. Table XI shows the results.

Procedure II. To illustrate the comparison between the classical analysis of variance design and the multiple linear regression models used in testing this and the following five hypotheses, this hypothesis was also tested using the classical one-way analysis of variance. Table XII shows the results.

Findings. There is a significant relationship between need for autonomy and standardization in schools as indicated by the significant F-ratios described in Tables XI and XII. However, a study of the means plotted in Figure 1 indicate that the trend is not a linear one. Contrary to the hypothesis, the highest needs for autonomy exist in schools where there is least standardization.

The multiple linear regression test yielded an $F = 4.64$ ($p = .004$) and the classical design yielded an $F = 3.71$ ($p = .012$). The possible causes of a lower value for F in the classical design may be the following:

TABLE XI

MULTIPLE REGRESSION ANALYSIS: NEED SCORES IN FOUR GROUPS OF SCHOOLS CLASSIFIED ACCORDING TO THE EXTENT OF STANDARDIZATION

Predictor	Criterion	R^2 full	R^2 restricted	df*	F	p
Extent of standardization in schools, in presence of: sex, experience and education of teachers.	Need for autonomy scores of teachers	.0706	.0087	3/209	4.64	.004

N = 216

*Three degrees of freedom are lost because of the three covariate vectors: sex, experience and education of teachers.

TABLE XII

CLASSICAL ANALYSIS OF VARIANCE: NEED SCORES IN FOUR GROUPS OF SCHOOLS CLASSIFIED ACCORDING TO THE EXTENT OF STANDARDIZATION

Source of variation	Sums of squares	df	Mean squares	F	p
Groups (between)	2.37	3	.79		
Error (within)	45.18	212	.21		
Total	47.55	215		3.71*	.013

*The lower value for F in this test may be due to the omission of the three covariates.

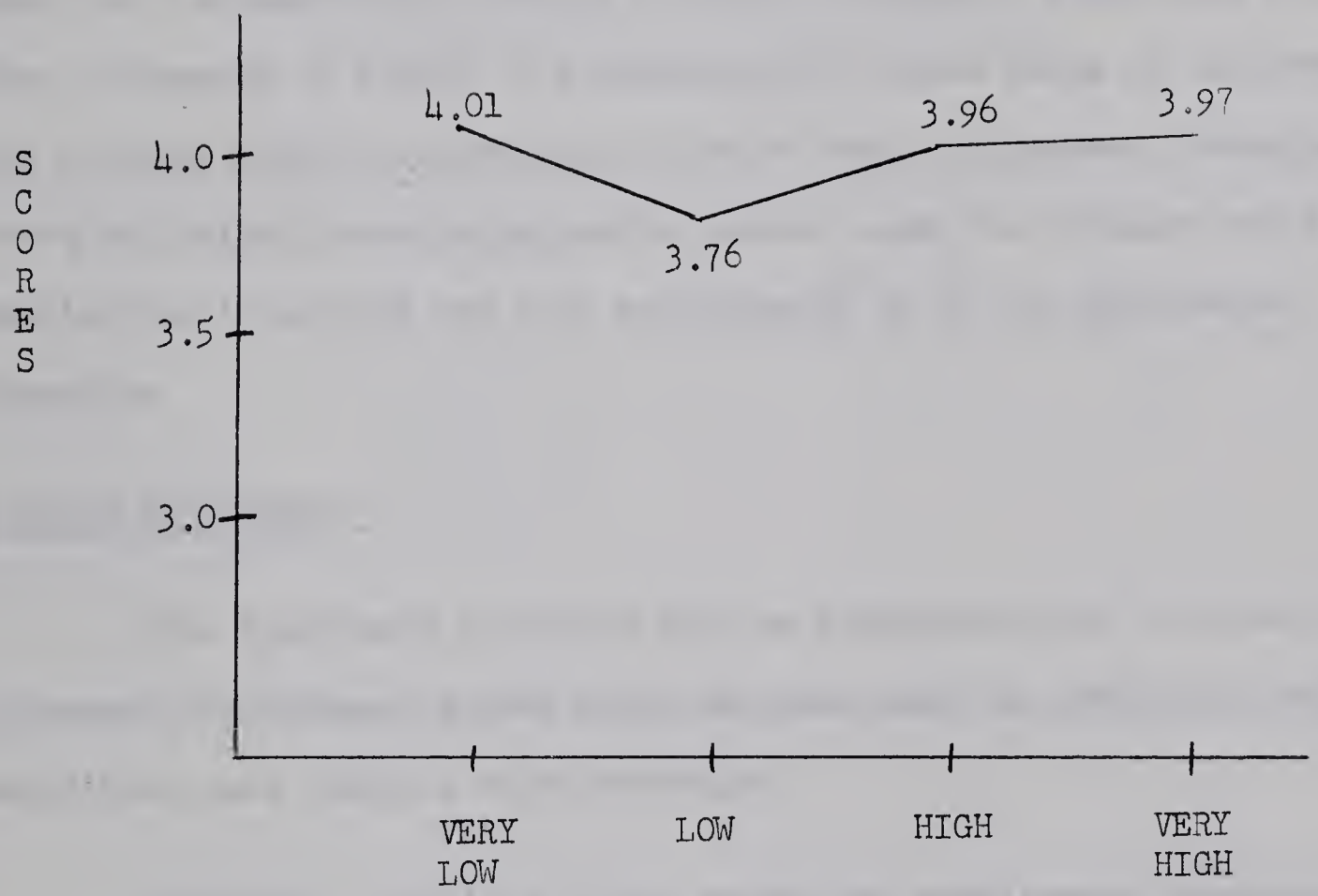

FIGURE 1

MEANS OF NEED FOR AUTONOMY SCORES IN GROUPS OF SCHOOLS CLASSIFIED ACCORDING TO THE EXTENT OF STANDARDIZATION

(1) there are no covariates, and (2) the data may not meet the more rigorous assumptions of the classical test.

Discussion. If this finding is interpreted in the light of those reported for the rank order of needs in three areas, it may be suggested that there is least standardization in group I (very low standardization) schools because the teachers have high needs for independence. Thus, they apply such pressure as is needed to obtain autonomy. Apart from this special case, increases in levels of standardization arouse needs of teachers for the autonomy which is increasingly denied them. In general, therefore, there is a significant relationship between needs for autonomy and standardization in schools and this relationship is in the hypothesized direction.

Testing Hypothesis 5

This hypothesis predicted that as standardization in schools increased, fulfillment scores would decrease when the effects of sex, experience, and training were controlled.

Procedure. Multiple linear regression models were constructed so that the effect of membership in a school group as a predictor of the criterion could be tested. Table XIII and Figure 2 present the results.

Findings. The scores plotted in Figure 2 indicate that fulfillment scores do decrease as standardization increases. However, according to the regression model results, the probability of such a pattern of scores does not exceed that of chance ($p = .177$).

TABLE XIII

MULTIPLE REGRESSION PREDICTION OF NEED FULFILLMENT SCORES BY EXTENT OF STANDARDIZATION IN SCHOOLS

Predictor	Criterion	R^2 full	R^2 restricted	df	F	p
Extent of standardization in schools, in presence of: sex, experience and education of teachers.	Need fulfillment scores of teachers	.042	.019	3/209	1.66	.177

N = 216

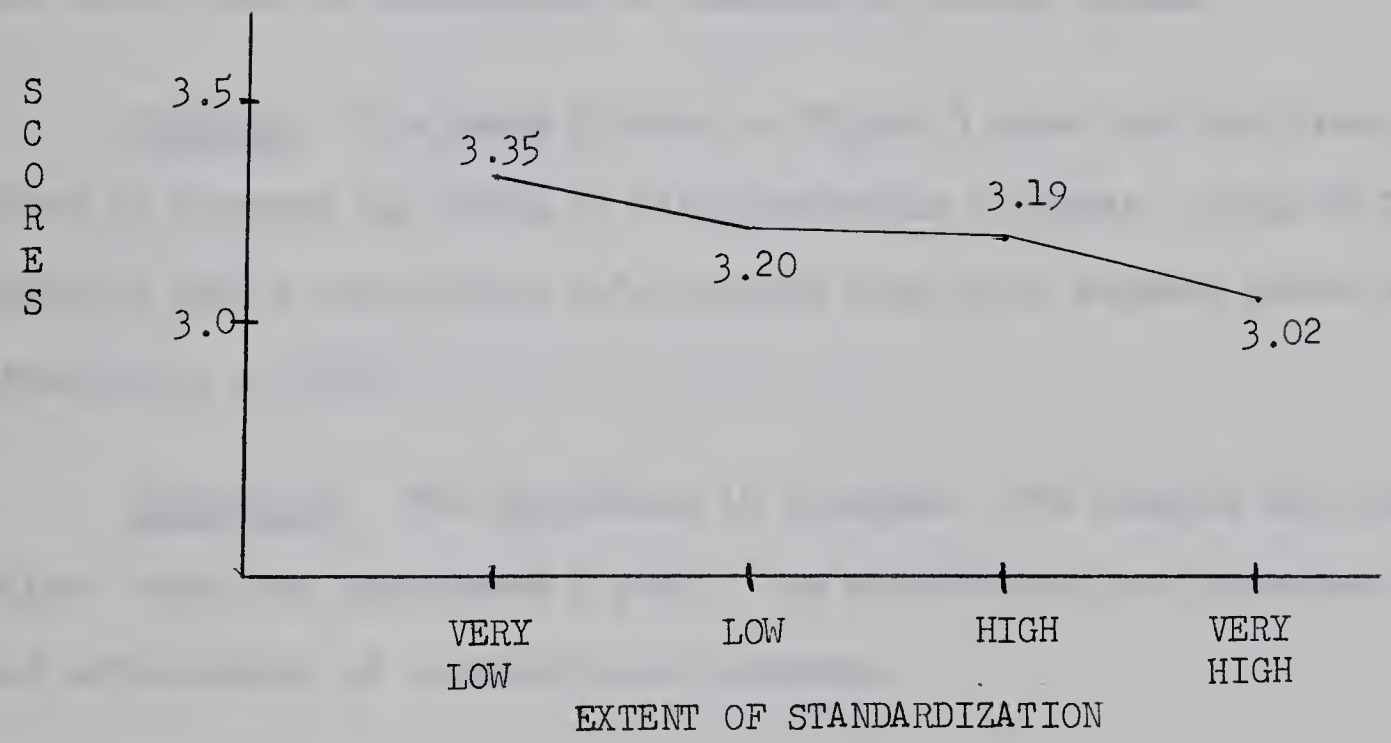

FIGURE 2

MEANS OF NEED FULFILLMENT SCORES IN GROUPS OF SCHOOLS CLASSIFIED ACCORDING TO THE EXTENT OF STANDARDIZATION

Discussion. The hypothesis must be rejected, even though the trend of scores suggests that the judges and teachers agree on the relative levels of standardization which exist in the schools.

Testing Hypothesis 6

This hypothesis predicted that need deficiency scores would increase as levels of standardization in schools increased when the effects of sex, experience, and education were controlled.

Procedure. Multiple linear regression models were constructed to test the effects of membership of teachers in school groups.

Findings. The means plotted in Figure 3 show that deficiency scores do increase as levels of standardization increase. Table XIV indicates that a significant relationship does exist between these two variables ($p = .016$).

Discussion. The hypothesis is accepted. The results here simply reflect those for hypotheses 4 and 5. As standardization increases, the need deficiencies of teachers also increase.

Summary

The basic hypothesis that attitudes of teachers are related to the extent of standardization in schools is generally supported. This is shown by the significant values for F in the hypotheses four and six which deal with need and need deficiency; although level of standardization did not prove to be a significant predictor of fulfillment scores, the trend was in the hypothesized direction.

TABLE XIV

MULTIPLE REGRESSION PREDICTION OF NEED DEFICIENCY SCORES BY EXTENT OF STANDARDIZATION IN SCHOOLS

Predictor	Criterion	R^2 full	R^2 restricted	df	F	p
Extent of standardization in schools, in presence of: sex, experience and education of teachers	Need deficiency scores of teachers	.054	.006	3/209	3.53	.016

N = 216

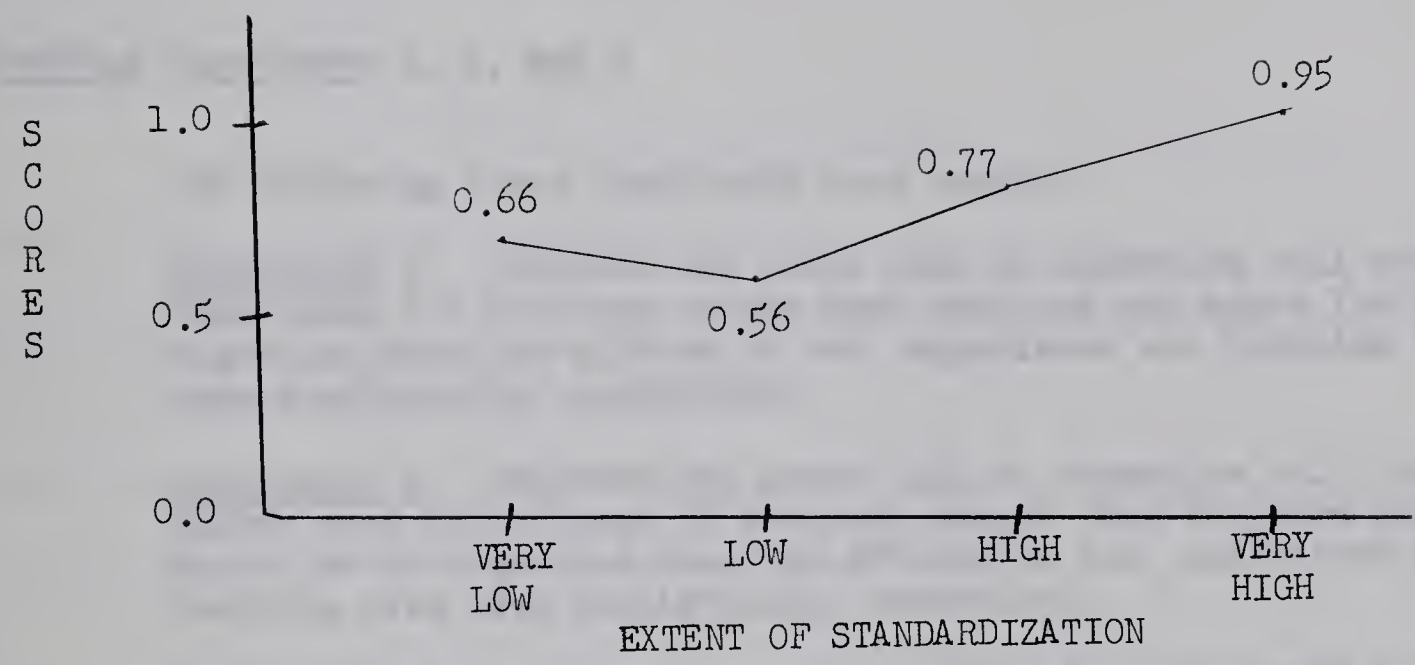

FIGURE 3

MEANS OF NEED DEFICIENCY SCORES IN GROUPS OF SCHOOLS CLASSIFIED ACCORDING TO THE EXTENT OF STANDARDIZATION

III. TEACHER ATTITUDES AND DOGMATISM SCORES

To test the next three hypotheses, teachers were divided into three groups according to their dogmatism scores. Table VII* indicates the grouping. Teachers scoring below forty-five are located in the low dogmatism group; those scoring between forty-five and fifty-four inclusively are in the middle group; and the high dogmatism group is composed of those scoring above fifty-four.

Testing Hypotheses 7, 8, and 9

The following three hypotheses were tested:

Hypothesis 7. Teachers who score high in dogmatism will obtain lower need for autonomy scores than teachers who score low in dogmatism when the effects of sex, experience and training have been statistically controlled.

Hypothesis 8. Teachers who score high in dogmatism will obtain higher need fulfillment of autonomy scores than teachers who score low in dogmatism when the effects of sex, experience and training have been statistically controlled.

Hypothesis 9. Teachers who score high in dogmatism will obtain lower need deficiency of autonomy scores than teachers who score low in dogmatism when the effects of sex, experience and training have been statistically controlled.

Procedure. Multiple linear regression models were constructed to test the effects of membership in a dogmatism group on each of the criterion scores. The F statistic was used to test the significance of dogmatism as a predictor variable.

Findings. The means of need scores decrease as dogmatism scores increase; this supports the prediction. Contrary to the prediction, need

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*See p. 81, above.

fulfillment scores also decrease as dogmatism scores increase. Need deficiency scores are lowest for the low dogmatism group; this is also contrary to the hypothesis. Table XV lists the means of each set of scores.

The results of the multiple regression analyses indicate that none of the F's are significant. Dogmatism appears to bear little or no relationship to any of the criteria. Table XVI shows the results of the regression analyses.

Discussion. The probabilities and means associated with need for autonomy indicate that dogmatism and need for autonomy are relatively independent of each other. This finding supports Vroom's earlier finding that authoritarianism (as measured by the F-scale) and need for independence (as measured by the Allport-Tannenbaum scale) are independent of each other.[5]

Since need deficiency is in part a function of need, the present data may be interpreted to indicate that deficiency scores and dogmatism scores are also relatively independent of each other.

The finding that need fulfillment scores are not significantly related to dogmatism emphasizes the difficulty of attempting to relate a teacher's personality to his perception of organizational dimensions of schools. For instance, MacKay noted that the personality of the teachers in his sample as measured by the Jungian-based Myers-Briggs Type Indicator,

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[5]V. H. Vroom, Some Personality Determinants of the Effects of Participation (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1960), p. 37. See also Chapter III, above.

TABLE XV

MEANS OF NEED FOR AUTONOMY SCORES, NEED FULFILLMENT SCORES AND NEED DEFICIENCY SCORES FOR GROUPS OF TEACHERS CLASSIFIED ACCORDING TO DOGMATISM SCORES

Criterion	Groups of Teachers			Grand Mean
	Low Dogmatism n = 61	Average Dogmatism n = 87	High Dogmatism n = 68	N = 216
Need for Autonomy	3.95	3.92	3.87	3.91
Need Fulfillment	3.33	3.19	3.14	3.22
Need Deficiency	0.63	0.74	0.73	0.70

TABLE XVI

MULTIPLE REGRESSION PREDICTION OF NEED, NEED FULFILLMENT AND NEED DEFICIENCY SCORES BY GROUPS OF TEACHERS CLASSIFIED ACCORDING TO DOGMATISM SCORES

Predictor	Criterion	R^2 full	R^2 restricted	df	F	p
Dogmatism scores of teachers in the presence of: sex, experience and education of teachers.	Need for autonomy scores of teachers	.014	.009	2/210	0.57	.57
	Need fulfillment scores of teachers	.033	.019	2/210	1.49	.23
	Need deficiency scores of teachers	.011	.005	2/210	0.62	.54

N = 216

was not related to a teacher's perception of bureaucratization of the school.[6]

Further analysis. Although the hypothesis which deals with fulfillment of needs must be rejected, the trend of scores suggested that further analysis was in order.

In Rokeach's studies, he usually selected only those who scored in the top and bottom 10% of the D scale, and groups which comprised only 5% of the total sample were not uncommon. Accordingly, it was decided to check each of the criterion scores (need, fulfillment, and deficiency) of those who scored extremely high and extremely low on the dogmatism scale. Two such groups were matched according to sex, experience, and education. Both groups had 20 members.

The means and variances of these two groups for need, need fulfillment, and need deficiency scores were computed. Corrections for unequal variances were made and t-tests were conducted. None of the results approached the significant level. The means, on all scores, for both groups were almost identical to those obtained by the total sample. Thus there did not seem to be any further reason to pursue the problem of a possible relationship between any of the criterion scores and dogmatism scores.

Discussion. The results demonstrated here indicate the difficulty of applying Rokeach's theory to specific situations. That needs should be

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[6]D. A. MacKay, "An Empirical Study of Bureaucratic Dimensions of Schools and Their Relation to Other Characteristics of School Organizations" (unpublished Ph.D. thesis, University of Alberta, Edmonton, 1964), p. 166.

associated with dogmatism is inferred by Rokeach's theorizing that dogmatic persons place an overreliance on some external authority, especially that which can reward or punish the individual concerned.[7]

By a deductive process, the dogmatic teacher would avoid clashes with his superiors, and thus not manifest his needs for autonomy. However, perhaps the professional orientation of teachers and principals makes such an expression for professional autonomy quite acceptable. Perhaps too, the teacher anonymously completing a questionnaire feels free enough to report his true evaluations of his needs; there was no authority to suggest the "correct" answer.[8]

Rokeach also stressed the effect of dogmatism on a person's perceptual processes. However, dogmatism seemed to be related only to perceptual synthesis and not perceptual analysis. When teachers describe their situation in terms of need fulfillment, only analysis is involved.[9]

Similarly, Rokeach had theorized that dogmatic persons have less tolerance for ambiguity in their personal, perceptual and cognitive processes.[10] For instance, in the Kemp study cited in Chapter Three, the highly dogmatic persons reported values and occupational preferences which

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[7]Milton Rokeach, The Open and Closed Mind (New York: Basic Books, Inc., 1960), pp. 62-63.

[8]Most of the studies of conformity of behavior of dogmatic persons involved interpersonal interaction to some extent. See the references in Chapter II, above.

[9]Rokeach, op. cit., pp. 259-268.

[10]Ibid., p. 16, Chapter II, and p. 395.

were appropriate to the philosophy and aims of the college; six years later they held jobs which did not conform to their earlier preferences and they had reported new values which were appropriate to their chosen careers.[11]

It was felt that, for the highly dogmatic person, a high deficiency score would be a manifestation of ambiguity. A person with high deficiency scores would resolve the problem in one of two ways: (1) seek to change the environment, or (2) alter either the level of need or the perception of fulfillment. The first would bring the teacher into conflict with the principal, an authority figure. A highly dogmatic person, however, seeks the support of authorities; thus, he is not likely to demand more autonomy. The alternative is to make internal attitudinal changes. Thus, highly dogmatic teachers would tend to have lower need deficiency scores. However, this hypothesis was rejected.

Certain reasons may be advanced for the above contradiction. School administrators may not be regarded as strong authority figures by the teachers; also, the present shortage of teachers, and the strength of the teachers' association may seriously limit an administrator's ability to reward or punish teachers. It was also noted that of all the teachers in the Trusty and Sergiovanni study, elementary teachers reported the lowest autonomy need deficiency scores.[12] Thus, perhaps the tolerance of these teachers for need deficiency is great enough to accommodate that which exists at the elementary school level. Thus any protective mechanism of highly dogmatic persons would not be operative.

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[11] *Ibid.*, pp. 335-346 [12] *Op. cit.*

Testing Hypotheses 10, 11, and 12.

These three hypotheses predicted that each of the criterion scores could be expressed as a function of the interaction of dogmatism scores and the extent of standardization in schools when the effects of sex, experience and education are controlled. The hypotheses are as follows:

> Hypothesis 10. Fulfillment scores of teachers are a function of the extent of standardization of a school and the dogmatism scores of teachers when the effects of sex, experience and training have been statistically controlled.
>
> Hypothesis 11. Need for autonomy scores of teachers are a function of the extent of standardization of a school and dogmatism scores of teachers when the effects of sex, experience and training have been statistically controlled.
>
> Hypothesis 12. Deficiency scores of teachers in the area of need for autonomy are a function of the extent of standardization of a school and the dogmatism scores of teachers when the effects of sex, experience and training have been statistically controlled.

Procedure. For each hypothesis, multiple linear regression models were constructed to test the interaction effect of the two predictors on the criterion. In each case, the full model contains information concerning the covariates, rows (dogmatism), columns (standardization), and cells (interaction). The restricted model contains the same information less cell information. The F statistic is used to test the contribution of the interaction of the two predictor variables to the variance of the criterion.

Findings. As shown in Table XVII, none of the F's reached a significant level. All three hypotheses are thus rejected.

Discussion. These latter three hypotheses were exploratory in nature; however, the interaction of dogmatism scores and standardization in

TABLE XVII

MULTIPLE REGRESSION PREDICTION OF NEED, NEED FULFILLMENT AND NEED DEFICIENCY SCORES BY GROUPS OF TEACHERS CLASSIFIED ACCORDING TO EXTENT OF STANDARDIZATION IN SCHOOLS AND DOGMATISM SCORES

Predictors	Criterion	R^2 full	R^2 restricted	df	F	p
The interaction of the extent of standardization in schools and the dogmatism scores of teachers in the presence of: sex, education and experience of teachers.	Need for Autonomy	.093	.077	6/200	0.59	.74
	Need Fulfill-ment	.097	.059	6/200	1.40	.22
	Need Deficiency	.091	.063	6/200	1.00	.43

schools does not affect the need, fulfillment or deficiency scores of teachers. Since the probability associated with need fulfillment scores is lowest, Table XVIII presents only the means of need fulfillment scores in each cell as an illustration of the findings.

Summary. The attitudes of teachers concerning autonomy are related to the extent of standardization of the schools. The needs for autonomy of teachers are high in very low standardization schools, low in moderate standardization schools, and high in high standardization schools. This result suggests that needs for autonomy and the extent of standardization in schools interact with one another so that, in certain cases, the high need of teachers will result in low standardization in schools.

There is some evidence that the ratings of judges obtained in the manner used in this study concur with the need fulfillment scores of teachers. For example, in hypotheses one and two, the judges' ratings and teachers' need fulfillment scores indicated that there was most standardization in the area of course content, and progressively less in the areas of evaluation and discipline; in Hypothesis 5, the progression of fulfillment scores decreased from very low standardization schools to very high standardization schools. Need deficiency scores also decrease as standardization increases; more significantly the area of greatest need deficiency is that of course content, the area which is the most central of the three to the teaching function. Need deficiency scores are negatively correlated with satisfaction scores.

The lack of support for the hypotheses dealing with dogmatism calls for careful study. Several possible reasons for the lack of positive results have been advanced. An additional important factor may be the

TABLE XVIII

MEANS OF FULFILLMENT SCORES OF GROUPS OF TEACHERS CLASSIFIED ACCORDING TO EXTENT OF STANDARDIZATION IN SCHOOLS AND DOGMATISM SCORES OF TEACHERS

Dogmatism Groups	Extent of standardization in schools				Means
	VERY LOW	LOW	HIGH	VERY HIGH	
Low Dogmatism	3.38	3.38	3.41	3.09	3.33
	n = 15	n = 16	n = 17	n = 13	n = 61
Average Dogmatism	3.51	3.17	2.93	3.02	3.19
	n = 23	n = 30	n = 23	n = 11	n = 87
High Dogmatism	3.10	3.12	3.29	2.91	3.14
	n = 21	n = 19	n = 19	n = 9	n = 68
Means	3.35	3.20	3.19	3.02	G.M. 3.21
	n = 59	n = 65	n = 59	n = 33	N = 216

nature of the sample. The standard deviations of the teachers' scores for dogmatism and need scores are relatively small; the schools in the sample also do not differ radically from one another. This relatively homogeneous sample of teachers in the well-defined role of elementary school teacher may preclude the possibility of meaningfully relating a personality variable in the manner attempted in this study.

IV. SUMMARY

This chapter has reported the testing and analysis of the hypotheses. Table XIX presents the intercorrelations of the major variables used in the study. The three covariates, sex, years of teaching experience, and years of academic education, are not related to either of the criterion variables of need, or deficiency. A correlation of -.11[13] between sex and fulfillment indicated that women tend to find less autonomy in their teaching position than do men. Trusty and Sergiovanni observed a similar trend.[14] In addition, MacKay noted that female teachers in his sample observed more emphasis on hierarchical authority, rules, and procedural specifications in schools than did male teachers.[15]

The large proportion of females in this sample (which reflects a like proportion in the Alberta elementary schools) indicates the impor-

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[13] $p = .10$ (two-tailed test).

[14] F. M. Trusty and T. V. Sergiovanni, "Perceived Need Deficiencies of Teachers and Administrators," Educational Administration Quarterly II:3 (Autumn, 1966), p. 174.

[15] D. A. MacKay, "An Empirical Study of Bureaucratic Dimensions and Their Relation to Other Characteristics of School Organizations" (unpublished Ph.D. thesis, University of Alberta, Edmonton, 1964), p. 165.

TABLE XIX

CORRELATION MATRIX OF NINE VARIABLES

VARIABLE	1	2	3	4	5	6	7	8
1. sex[1]	1.00							
2. experience	.18	1.00						
3. education	-.25	-.28	1.00					
4. fulfillment	-.11	.06	.00	1.00				
5. need	-.07	.05	.00	.41	1.00			
6. deficiency	.06	-.03	-.01	-.74	.32	1.00		
7. satisfaction[2]	-.19	-.13	-.01	-.27	.11	.36	1.00	
8. dogmatism[3]	-.02	.06	-.11	-.09	-.08	.03	-.02	1.00
9. school rank[4]	.01	-.02	-.03	-.18	-.02	.17	.10	-.08

[1]male = 1, female = 2.

[2]low scores indicate satisfaction

[3]high scores indicate dogmatism or closed-mindedness.

[4]Schools are ranked 1 to 15; larger numbers indicate greater levels of standardization

N = 216 $r_{.05}$ = .138 (two-tailed test)

tance of sex as a covariate. Females are more satisfied with their present teaching positions than men. The negative correlation between sex and fulfillment scores approaches the significant level. Trusty and Sergiovanni found a similar non-significant trend.[16] There is a relationship between experience and satisfaction which approaches significance, although this may be confounded by the sex factor. The number of years of academic education appears to be negatively related to dogmatism scores, although the correlation (r = -.11) is not significant.

Satisfaction and Need Deficiency

The analysis indicated that there is a significant correlation between a general satisfaction rating and need deficiency scores. The correlation (r = -.36) indicates that approximately 13% of the variance in satisfaction scores is due to the variance in need deficiency scores. However, as was pointed out above, this correlation may be an underestimate. Some further tests were conducted to check whether dogmatism scores affected this correlation, but no such influence was detected. A puzzling finding was that women and more experienced teachers are more satisfied than men and less experienced teachers, but no such relationship exists with need deficiency scores.

Criterion Scores and School Groups

The data suggest that an interplay of forces between need for autonomy and standardization in schools exists. With one exception, the

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[16] F. M. Trusty and T. V. Sergiovanni, op. cit., p. 174.

expression of needs increased as levels of standardization increased. However the teachers with the greatest needs were in the very low standardization schools. This was interpreted as being the result of the great demand for autonomy which the teachers had brought to bear on the local school administrators.

A relationship exists between fulfillment scores and school groups. Although the trend of scores was as predicted, that is, very low standardization schools achieved the highest fulfillment and very high standardization schools, the lowest, the results were not statistically significant. The trend of fulfillment scores coincided with the judges' ratings of the extent of standardization in schools. Further, the value of the Pearson r between fulfillment scores and the rank of the school as determined by the judges is -.18 which is significant at the .01 level (two-tail test).[17]

There is a significant linear relationship between need deficiency scores and extent of standardization in schools. The greater the extent of standardization, the greater the need deficiency.

Dogmatism Scores

The results of hypotheses 7, 8, and 9 as well as the figures in Table XIX, indicate that dogmatism is not linearly related to any of the criterion scores. Nor was it possible to detect evidence of any non-linear relationships. This was tested by selected small matched groups who scored very high and very low on the dogmatism scale. The scores of each group did not differ from each other or from the total mean for any

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[17]See Table XIX.

of the criterion variables.

There appeared to be a slight negative correlation between dogmatism and fulfillment scores; however, the means of extremely high dogmatic and extremely low dogmatic teachers did not differ significantly from each other or from the mean of the total sample.

Comparison of the means and distribution of the dogmatism scores indicated that they are in line with those reported by similar studies. The distribution of the scores in this study did not differ from normality.

Dogmatism and Standardization

The prediction that there would be various combinations of school-types and dogmatism scores which would produce differential effects on the criterion scores was rejected. In each case, none of the means of the resulting twelve combinations differed significantly from each other.

CHAPTER VIII

SUMMARY AND CONCLUSIONS

The central aim of this study was to investigate the attitudes of teachers concerning their professional autonomy as related to their work environment and their personality. The basic theoretical framework employed was a Lewinian-type equation that attitudes and perceptions are a product of personality and environment.

This final chapter summarizes various important features of the investigation, and proposes some general implications both for the student and the practitioner of educational administration.

I. SUMMARY OF THE STUDY

The Problem

There have been several recent attempts to define the organizational structure of a school in terms of a Weberian bureaucratic organization. However, it was felt that it would be meaningful to focus attention on the means by which schools coordinate the professional activities of teachers. Three specific areas were selected for study: (1) selection of course materials and instructional content; (2) evaluation and reporting of pupils' work; and (3) control and discipline of pupils. The sub-problems dealt with (1) the relative amount of coordinating activities which occurred in each area; (2) the teachers' needs for autonomy in each area; (3) the influence of standardizing activities on the teachers' attitudes (need for autonomy, need fulfillment, and need deficiency); and (4) the influence of

a personality variable on such attitudes.

Related Research

In the present study, the method of measuring teachers' attitudes was adapted from Porter;[1] Keene's methodology for describing and judging the extent of coordinating activities used in schools was replicated;[2] and Rokeach's theory of dogmatism was utilized.[3]

Porter proposed that individuals had varying levels of needs for autonomy and authority and that such needs are measurable; similarly, the extent to which persons perceive that their needs are met by their organizational position varied; finally, people differ in the extent to which they perceive that their position provides a degree of autonomy which is congruent with their needs. He termed the latter satisfaction.

Porter demonstrated that the intensity of needs, the perceptions of the degree to which needs are fulfilled, and need deficiency are related to the hierarchical position which the encumbent holds.

Keene demonstrated the utility of measuring the extent to which coordinating devices in schools limited the freedom of teachers. He suggested that schools could be grouped according to the extent that such

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[1]Lyman Porter, Organizational Patterns of Managerial Job Attitudes (New York: American Foundation for Management Research, 1963).

[2]R. Keene, "Operational Freedom in Complex Organizations " (unpublished doctoral thesis, Washington University, 1962).

[3]Milton Rokeach, The Open and Closed Mind (New York: Basic Books, 1960).

activities existed; he further suggested that the extent of such activities was a function of school size.

Rokeach's theory of dogmatism, or general authoritarianism, is based on the assumption that the mode of cognitive functioning can be related to a person's reaction to authority in particular and to interpersonal relationships in general. To some degree, the highly dogmatic person tends to confuse the merits of information with its source, place arbitrary reliance on authority, and categorize people into in-groups and out-groups on the basis of the extent to which they hold similar beliefs and values.

It was felt that a study which investigated the dogmatism of teachers on one hand, and the manner and degree in which authority was used in schools on the other, would aid in explaining differing needs and perceptions of teachers.

Methodology

Responses were obtained from 216 teachers located in fifteen schools in urban and non-urban areas in Central Alberta. Teacher-data included information concerning sex, marital status, years of experience, and years of education. Scores for need, perception of fulfillment and need deficiency for each of the three areas (course content, pupil evaluation, and pupil control) as well as total need, fulfillment, and deficiency scores were computed. Satisfaction and dogmatism scores were also obtained.

At the same time, principals were interviewed and certain school and district documents (handbooks, memos, and report card forms) were examined. From these, descriptions of each school were written. A group

of ten judges rated and ranked each school according to the extent that standardizing and coordinating devices were employed which circumscribed the autonomy of teachers.

Hypotheses and Findings

The following are the hypotheses and findings involved in the study.

1. It is hypothesized that the rank order of standardization in various areas will be student control (first and highest), pupil evaluation (second), and course content (third and lowest).

The judges' rating of the three areas on the extent of standardization did not support the hypothesis. The judges showed a lack of agreement in their ranking of the three areas. Nevertheless, they reported least standardization in the area of student control; the other two areas were rated as being about the same, thus demonstrating the close connection between the areas of evaluation and selection of course materials. The area of evaluation was rated as slightly more standardized than the area of course content.

2. It is hypothesized that teachers will demand greatest autonomy in the area of course content and least in the area of controlling of students.

This hypothesis was not supported, yet some important findings were noted. Teachers' need for autonomy scores were lowest in the area of course content; means for the other two areas were equal.

Further tests indicated that the rank order of fulfillment of autonomy needs scores were pupil discipline (highest) followed by evaluation and course content (lowest). This ranking coincides with the ratings of the judges. Thus it demonstrates that the ratings by the judges yielded the same rank order as did the fulfillment scores of the teachers.

Fulfillment scores are measures of amount of autonomy which the teachers perceive that their positions afford them.

Finally, the rank order of need deficiency scores progressed from course content (highest) to evaluation, and control of pupils (lowest). Thus the gap between the professional's need for autonomy and the provision for that need by the organization is greatest in the area of course content, and progressively smaller in the areas of evaluation and discipline. Thus, relative to the amount of autonomy which the teachers already possess, the rank order of needs is in the hypothesized direction.

Table XX organizes the results of the first two hypotheses. It should be noted that while the judges' ratings did not achieve a significant level of agreement as measured by the Kendall's W test, the three sets of teachers' scores all demonstrated a significant level of agreement.

3. It is hypothesized that highly satisfied teachers will obtain lower deficiency scores than will less satisfied teachers.

This hypothesis was supported. There is a significant correlation between a teacher's satisfaction with his present position and his need deficiency score. Thus, need deficiency may be used as a predictor of teacher-satisfaction.

4. Teachers in schools where there is high standardization will obtain higher need for autonomy scores than teachers in schools where there is low standardization when the effects of sex, experience, and training have been statistically controlled.

The highest need for autonomy scores were reported in the schools with very low standardization. It was suggested that such was the case because these teachers with high needs may have demanded such freedom and had administrators who were capable of granting it. The scores of the other

TABLE XX

COMPARISON OF JUDGES' RATINGS, TEACHERS' NEED SCORES, FULFILLMENT SCORES AND NEED DEFICIENCY SCORES IN THREE AREAS

	COURSE CONTENT	EVALUATION	DISCIPLINE
Judges' rating of extent of standardization	High	High	Low
	s t a n d a r d i z a t i o n		
Rank*	(1)	(2)	(3)
Teachers' need for autonomy	Low	High	High
Rank	(1)	(2.5)	(2.5)
Teachers' need Fulfillment	Low	Moderate	High
Rank	(1)	(2)	(3)
Teachers' need deficiency	High	Moderate	Low
Rank	(3)	(2)	(1)

*The assigned ranks of the judges' ratings are reversed in this table to facilitate interpretation in terms of autonomy for the teachers.

three groups of schools (LOW, HIGH, and VERY HIGH standardization) while all lower than the first group, followed the order predicted in the hypothesis.

5. Teachers in schools where there is high standardization will obtain lower need fulfillment scores than teachers in schools where there is low standardization when the effects of sex, training, and experience have been statistically controlled.

This hypothesis is partially supported only. The need fulfillment scores do decrease as standardization increases, but the findings are not statistically significant; the probability was .177. Nevertheless, the fact that the teachers and judges agreed on the extent of standardization which exists in the schools, lends additional support to the hypothesis. Furthermore, there is a significant correlation between school rank (as determined by the judges' ratings) and need fulfillment scores, (Table XIX).

6. Teachers in schools where there is high standardization will have higher need deficiency scores than teachers in schools where there is low standardization when the effects of sex, experience and training have been statistically controlled.

This hypothesis is supported. The incongruency between needs and their fulfillment increases as standardization increases. This result, together with the result reported for Hypothesis 2, that need deficiency scores decrease from the area of course content to the area of pupil discipline, suggests that the concept of need deficiency is more useful for research in organization than the concepts of need and need fulfillment.

The next three hypotheses dealt with the relationship between dogmatism scores and each of the criteria (need, fulfillment, and deficiency).

7. Teachers who score high in dogmatism will obtain lower need for autonomy scores than teachers who score low in dogmatism when the effects of sex, experience, and training have been statistically controlled.

The trend of scores indicates some support for this hypothesis, but the results were not statistically significant. The hypothesis was rejected.

8. Teachers who score high in dogmatism will obtain higher need fulfillment of autonomy scores than teachers who score low in dogmatism when the effects of sex, experience and training have been statistically controlled.

This hypothesis was not supported. Contrary to the prediction, fulfillment scores appeared to decrease as dogmatism scores increased. The results were not statistically significant.

9. Teachers who score high in dogmatism will obtain lower need deficiency of autonomy scores than teachers who score low in dogmatism when the effects of sex, experience and training have been statistically controlled.

This hypothesis was not supported. Teachers with low dogmatism scores reported the lowest need deficiency scores. The results were not statistically significant.

The last three hypotheses dealt with the effects of the interaction of teacher-dogmatism and standardization in schools on need fulfillment and deficiency scores.

10. Fulfillment scores of teachers are a function of the extent of standardization of a school and the dogmatism scores of teachers when the effects of sex, experience and training have been statistically controlled.

11. Need for autonomy scores of teachers are a function of the extent of standardization of a school and the dogmatism scores of teachers when the effects of sex, experience and training have been statistically controlled.

12. Deficiency scores of teachers in the area of need for autonomy are a function of the extent of standardization of a school and the dogmatism scores of teachers when the effects of sex, experience and training have been statistically controlled.

None of the above three hypotheses were supported. The means of the criterion scores in each cell followed no pattern. None of the results approached statistical significance.

II. CONCLUSIONS

Before any generalizations are made, some precautionary remarks should be stated. The present sample does not meet the requirement of random sampling from a larger population, thus statistical inferences beyond this study group are not justifiable. Tentative generalizations may be made with regard to the population of schools of Central Alberta and perhaps of all Alberta. General inductive assumptions about similar groups of schools, when made judiciously, are useful and indeed are necessary. Nevertheless, it should be remembered that the present sample was drawn from Central Alberta elementary schools which employed at least ten full-time staff members.

Standardization in the Three Areas

1. The area of least standardization is control and discipline of students, followed by evaluation of pupils, and selection of course content. This is confirmed both by the opinions of the ten judges and the observations of the teachers.

Attitudes of Teachers Concerning Autonomy

2. Teachers expressed greatest needs for autonomy in the area of discipline of students and least needs in the area of course content; they observed that their needs were fulfilled in that same rank order; the need deficiency scores were in the reversed rank order. That is, the difference

between the amount of autonomy which teachers need, and the amount they believe they possess, ranges from course content (greatest difference) to evaluation, and discipline.

3. Teachers expressed greatest needs for autonomy in the schools which are least standardized; teachers in moderately standardized schools expressed lower needs for autonomy; teachers in highly standardized schools expressed high needs for autonomy. This suggests that there is an interplay of forces between teachers' needs and the extent of standardization which exists in schools.

4. The deficiency of autonomy needs may be used as a predictor of a teacher's satisfaction with his present position.

Dogmatism of Teachers

5. The dogmatism of teachers does not appear to affect teachers' needs for autonomy, need fulfillment, or need deficiency to any appreciable extent. There are indications that need for autonomy and observed need fulfillment scores decrease as teachers become more dogmatic. However, the results were not statistically significant. There was no observed relationship between need deficiency and dogmatism.

6. Furthermore, the interaction of the dogmatism of teachers and the extent of standardization in schools accounted for very little of the variance in need, fulfillment or deficiency scores.

III. IMPLICATIONS

Implications for Research

Further research on the needs of teachers for autonomy is certainly

required. For instance, the three areas in this study are wide in scope, embracing determining of aims and selecting of means to those ends. Do the teachers feel a need to participate in both functions (goals and means) equally? Another question could deal with the need for autonomy in the area of pupil discipline at all grade levels. Does the elementary teacher express the same attitudes concerning discipline as the junior high school teacher?

Some sections of this study should be replicated using much larger schools, and also other school levels, that is, junior high and senior high schools.

The suggestion that there is some interplay in the forces of teacher-need for autonomy and the standardizing practices in schools calls for further analysis. This could best be achieved by longitudinal studies or "case studies."

The lack of positive results from the hypotheses which deal with dogmatism calls for caution. On the one hand, several suggestions have been advanced for the negative results in this study: a homogeneous sample in a well-defined role; the teachers' reference groups are unknown; and the absence of relationships between dogmatism and analytical (as opposed to synthesizing) modes of thinking. On the other hand, perhaps sufficient use of the dogmatism scale has been made to re-evaluate its usefulness in terms of Rokeach's theory.

One methodological note concludes this section. Teachers' needs in this study were measured along a five point scale. Ordinarily the number of points on a Likert-type scale is of no significance. However, in this sample, teachers seldom used the first two categories of the need

scale; thus scores clustered about the right end of the scale. Perhaps a greater spread of scores, and a more meaningful analysis would be achieved if a seven point scale were used.

Implications for Administrators

Teachers listed needs for autonomy in the area of pupil discipline as most important; thus, they expect administrators to support the authority of the teachers, especially concerning control of pupils. However, what is perhaps more important to the administrator is that teachers feel that they do not have sufficient opportunity to determine what course materials are to be used in the classroom. The administrator should therefore ensure that teachers are able to participate in the decision-making processes which result in determining aims of courses and the means of achieving those aims. This calls for two-phased action. The first is to provide mechanisms whereby staff are able to influence decisions; the second is to encourage and assist teachers to become familiar with, and to evaluate, the various new ideas and new materials which appear in the field of education. This latter calls for the administrator to play a leadership role. The implication then is that the administrator must not only provide organizational methods of allowing the teacher to exert influence in decision-making; he must also ensure the growing competency of the teacher to use those avenues effectively.

A review of the descriptions of the current practices also indicates that school and district testing programs can seriously limit a teacher's freedom. (Note that the area of pupil-evaluation is where teachers' demands are greatest). Thus, the administrators will have to devise various methods

of judging the learning of pupils without resorting to means which seriously limit what a teacher will teach. Reduction of the number of official testing periods required by administrators, less dependence on records which indicate pupils' achievement in numerical fashion, and greater emphasis on descriptive reports written by the teachers may be acceptable answers.

Finally, the administrator is cautioned against interpreting the teacher's demand for autonomy as a desire for less positive leadership. In fact, quite the opposite is required. Teachers are seeking a method to influence the aims and goals of education as well as the means to attain those goals; one of the chief tasks of the administrator is to provide the opportunity for teachers to exercise their influence and to assist them to achieve the skill to participate efficiently in the decision-making processes.

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APPENDIX A

CORRESPONDENCE

1. Letter to Superintendents

2. Letter to School Principals

11114 - 78 Ave.
Edmonton, Alberta
February 14, 1967.

Dear Superintendent,

I am writing to request your assistance in the research I am conducting as a Ph.D. candidate in the Department of Educational Administration at the University of Alberta.

My research deals with the standardization and coordination of practices in instructional areas and the teachers' attitudes towards these practices. In order to obtain the required data, I wish to interview the principal of each selected school and ask the teachers to complete a questionnaire. The teachers will be able to complete the questionnaires individually on their own time if required. Samples of the questionnaire are available if you would like to preview a copy.

Precautions will at all times be taken to protect the anonymity of teachers, principals, schools and districts in accordance with the ethics of responsible research. The names of the teachers are not required; schools will be identified only by number.

Selected schools will be visited as soon as arrangements with the principals and teachers concerned are completed.

Would you assist me by selecting two schools from your district which I may approach?

The following are the criteria for selecting schools:

1. The principal has been in his present position during the 1965-66 school year.
2. The school has 10 or more teachers, (the more the better).
3. The school is organized as an elementary school. (Elementary-junior high schools are acceptable substitutes; however specialists and grade IX teachers will not take part).
4. One school resembles TYPE X (described below), while the other tends more toward TYPE Y.

Type X School

Procedures in this type of school are highly organized. Teachers are not involved in innovative practices; rules and regulations concerning the evaluation of pupils, pupil report cards, and the control and discipline of pupils are clearly stated.

Type Y School

In this type of school, teachers appear to have greater opportunities to experiment and innovate. There appear to be few hard and fast rules concerning what must be taught, methods of evaluating students and methods of disciplining students.

Please note that the above descriptions may be merely results of administrative styles adopted by equally effective administrators to meet a particular

set of needs. One is not considered to be "better" than the other.

Please name a school which tends towards Type X and one which, in your opinion, tends more towards Type Y. Name one alternate for each school if possible.

You may signify your permission to contact the schools selected by completing the attached form and returning it to me.

Thank you for your kind assistance.

District, Division or County

Name: _____

February ____, 1967

Dear Mr. O'Reilly,

You have my permission to contact the following schools in order to carry out your study dealing with the attitudes of teachers towards the standardization and coordination of practices in schools.

School Name	School Address	Principal's Name	No. of Teachers*	Grades Taught
TYPE X				
Alternate (if possible)				
TYPE Y				
Alternate (if possible)				

*Does not include principal or other full-time administrative staff.

The schools listed under Type X are in fact,

____ very similar, ____somewhat similar, ____ quite dissimilar,

to those listed under Type Y.

Yours truly,

Superintendent

Note: If permission is not granted, please indicate above and return this form.

Department of Educational Administration
University of Alberta
Edmonton
February 17, 1967

Dear Principal,

I am writing, with the permission of your superintendent, to request your assistance in the research project which I am conducting as a doctoral candidate in the Department of Educational Administration at the University of Alberta.

My study is concerned with the attitudes and reactions of teachers towards the coordination of practices in instructional areas which exist in this province.

The teachers in your school will be asked to complete a questionnaire which they may do individually in less than 15 minutes. The teachers will not be required to identify themselves by name, code number or by grade taught.

I would like to interview each cooperating principal. At the meeting with the principal, I should like to review certain written documents such as teachers' and pupils' handbooks, if any, and circulars governing such areas as the conduct of pupils, regulations concerning report cards, promotion policies and regulations concerning the curriculum. Approximately one hour and a half should be set aside for this interview. In order to save time, this session will be recorded on tape; however, if you object to this procedure, it is not necessary.

Let me assure you that neither teachers, principals, schools nor districts will be evaluated. It will not be possible for any one person, school or district to be identified in the final report; no one person or unit will be singled out for special analysis.

If you and your staff agree to participate in the study, please signify your intention by filling out and mailing the attached reply form. As soon as the forms are returned I shall phone you to arrange a mutually agreeable time and date for my visit.

To summarize the procedure then:

1. Complete the attached form to indicate whether or not you and your staff agree to participate.
2. I shall phone you to arrange a suitable time and date for my visit.
3. The teachers will be asked to complete a short questionnaire; they will not be required to identify themselves.
4. Each cooperating principal will be interviewed. During my visit, I shall ask to see certain routine circulars. NOTE: I shall not ask to see any personal or confidential records, but only routine administrative documents.

Thank you for your kind consideration.

School Name: _____

School Address: _____

_____

Date: February _____, 1967

Dear Mr. O'Reilly:

We shall be pleased to participate in your study.

The shaded portions of the following timetable indicate the most convenient times for your visit and interview with the principal.

	MON.	TUES.	WED.	THURS.	FRI.
A.M.					
P.M.					

Yours truly,

Principal

Telephone number: _____

If you are unable to participate in this study, check here _____ and return this form.

APPENDIX B

TEACHER QUESTIONNAIRES

1. Personal Data Questionnaire
2. Teacher-Attitude Questionnaire
3. Teacher-Satisfaction Questionnaire
4. Teacher World View Opionnaire

   (Dogmatism Scale)
5. IBM Answer Sheet

Dear Teacher,

I sincerely wish to thank you for agreeing to fill out the attached questionnaire. I fully realize that this is one of your busiest times of the year. I can only hope that the results of this study will justify the expenditure of your valuable time.

You are asked to make all replies on the IBM answer sheet. This procedure should minimize the amount of time which you will have to spend and will also further assure your anonymity.

Please complete the questionnaire as soon as possible. When you are finished, place the questionnaire and the answer sheet in the envelope provided and give it to the person designated.

Please accept my gratitude for your assistance, as without your cooperation, I would be unable to complete my studies.

GENERAL INFORMATION

Every effort has been made to hold the information given in this questionnaire in strict confidence.

Do not write your name on the answer sheet. The name of the school is required only for classification of data. Schools will not be identified in the final report.

All answers are to be made on the attached IBM answer sheet. Indicate your answer by placing a mark on one of the guidelines as shown in the example. Use an HB pencil. Don't make marks longer than guidelines.

Example:	A 1	B 2	C 3	D 4	E 5

The numbers in the left column of this questionnaire refer to the answer numbers on the IBM sheet. Please answer all questions.

Your comments about the questionnaire would be appreciated and may be quite valuable in the analysis of the data. You may write any comments on the margins of this sheet or on the back of this page.

Thank you for your cooperation.

I. PERSONAL DATA

ANSWER SHEET NUMBER — Underline the column which corresponds to the number of the correct given answer. For example, in question two, a married person would mark B 2.

1. Sex
   1. Male
   2. Female

2. Marital Status
   1. single
   2. married
   3. other (divorced, widowed, separated)

3. Total number of years teaching experience (include this year as one).
   1. 1 year
   2. 2 to 4 years
   3. 5 to 9 years
   4. 10 to 19 years
   5. 20 years or over

4. Total number of years of academic and professional training beyond grade twelve as recognized for salary purposes.
   1. 1 year or less
   2. 2 years
   3. 3 years
   4. 4 years
   5. 5 or more years

II. TEACHER-ATTITUDE QUESTIONNAIRE

This section asks about certain teacher-attitudes concerning the degree of autonomy or freedom they have, and the degree of autonomy or freedom they feel they should have, in three selected instructional areas. Indicate your response to each question by marking a column numbered 1 to 5 (Left to right). The number 1 represents a low degree of freedom and opportunity to be independent, to exercise authority, and to innovate freely as the situation may demand. Numbers 2, 3 and 4 represent successively higher amounts. Number five indicates that you have as much freedom, autonomy and authority as you require to freely respond to any situation which may arise.

Your answers for this section should be numbered from 5 to 28.

ANSWER SHEET NUMBER

GUIDE:	A 1	B 2	C 3	D 4	E 5
	None at all				Complete freedom

5 In general, how much authority do you now have in the selection of course content of the courses which you teach?

6 In general, how much authority do you think you should have to select the content of the courses which you teach?

7 How much opportunity do you have for independent thought and action in selecting and arranging the content of the courses which you teach?

8 How much opportunity do you think you should have for independent thought and action in selecting and arranging the content of the courses which you teach?

9 How much opportunity do you have to take part in deciding the goals of the courses which you teach?

10 How much opportunity do you think you should have to take part in deciding the goals of the courses which you teach?

11 How much opportunity do you have to select the materials, texts and references you require to teach your courses?

12 How much opportunity do you think you should have to select materials, texts and references you require to teach your courses?

13 In general, how much authority do you now have to evaluate and classify students and to prepare reports of pupil achievement and pupil conduct in the school?

14 In general, how much authority do you think you should have to evaluate and classify students and to prepare reports of the achievement and behavior of students?

ANSWER SHEET NUMBER

None at all				Complete freedom
A 1	B 2	C 3	D 4	E 5

15 How much opportunity do you now have for independent thought and action in evaluating, classifying and reporting the progress of students?

16 How much opportunity do you think you should have for independent thought and action in evaluating, classifying and reporting the progress of students?

17 How much opportunity do you now have to participate in the determination of goals and aims for the program of pupil-evaluation and of reporting students' progress?

18 How much opportunity do you think you should have to participate in the determination of goals for the pupil-evaluation and reports on pupils' progress programs?

19 How much opportunity do you now have to participate in the determination and selection of school methods and procedures in this general area of pupil-evaluation and reports of pupil-progress?

20 How much opportunity do you think you should have to participate in the determination and selection of school procedures and methods in this general area of pupil-evaluation and reports of pupil-progress?

21 In general, how much authority do you have as far as controlling and disciplining students is concerned?

22 How much authority do you think you should have in the area of controlling and disciplining students?

23 How much opportunity do you have for independent thought and action in disciplining and controlling students?

24 How much opportunity do you think you should have for independent thought and action in disciplining and controlling students?

25 How much opportunity do you now have to participate in the selection of goals and standards for proper student-conduct and the control of students in your school?

26 How much opportunity do you think you should have to participate in the setting of goals and standards for the proper behavior of students and for the control of students?

27 How much opportunity do you now have to participate in the determination of procedures and methods of pupil-discipline and pupil-control to achieve the aims of proper student-conduct and student-control?

28 How much opportunity to you think you should have to participate in the determination of procedures and methods of pupil-discipline and pupil-control?

TEACHER SATISFACTION QUESTIONNAIRE

The next six questions ask about your general satisfaction with your present teaching position and with the teaching profession in general.

Again, place your answers on the IBM sheet, by marking the appropriate column. For example, if in looking at question #29 (the first one below) you feel that the second sentence "This teaching position situation is one of the best that I know of," best describes your feelings, mark column 2.

Example: #29

A 1	B 2	C 3	D 4	E 5

Your answers for this section should be numbered from 29 to 34.

ANSWER SHEET NUMBER

29 Please select the one statement below which best indicates your satisfaction with your present teaching position in all its aspects.
1. It is difficult to imagine a more satisfactory teaching situation.
2. This teaching situation is one of the best that I know of.
3. I consider this among the better teaching situations.
4. This teaching position is only slightly better than average.
5. I consider this among the poorer teaching positions.

30 Please select the one statement below which best indicates your satisfaction with the social relationships among the teachers.
1. It is difficult to imagine a group with better social relationships.
2. Social relationships among the teachers in this school are unusually good.
3. This group has better than average social relationships.
4. Social relationships are only slightly better than average.
5. It would be much more pleasant if the social relationships were better.

31 To what extent are you satisfied with the educational policies followed in your school as compared to policies that you feel to be most desirable educationally. (Select one).
1. The educational policies followed here are the best that I can imagine.
2. The educational policies followed here are unusually good.
3. In general, the educational policies followed here are very good.
4. The educational policies followed here are good in general, although some are undesirable.
5. I consider many of the educational policies here to be undesirable.

32 What would probably be your reaction if you were offered a non-teaching position at an increase in salary of $500. per school year? Assume that the position being offered is one in which you would use your academic training and that, in general, your abilities would be well suited to the job. (Select one).

1. I would take the job.
2. I would seriously consider it and might well decide to take it.
3. I would consider it but do not know whether or not I would decide to take it.
4. I would consider it but I would be unfavorably inclined from the outset.
5. I would not even make further inquiry about the job.

ANSWER SHEET NUMBER

33 How plentiful do you feel employment opportunities are in non-teaching positions for persons of your sex with your particular subject-matter training? Consider only non-teaching jobs with salaries about the same as, or better than, teaching jobs. (Select one).

1. There are so many opportunities of this type in my field that those teachers who are attracted have a wide choice.
2. There are enough opportunities that a teacher in my field has little difficulty finding one.
3. There are enough opportunities that one may be found in a reasonable length of time.
4. There are few such opportunities of this type for teachers in my field.
5. Opportunities of this type are very scarce for teachers in my field.

34 In what manner does the administration in your school react when teachers express criticisms of the school's educational policies in faculty meetings? (Select one).

1. The administration urges teachers to express such criticisms and warmly receives them.
2. The administration encourages criticisms and receives them in a fair manner.
3. Criticisms are accepted by the administration without prejudice to the teacher.
4. Criticisms are usually not favorably received by the administration.
5. The administration does not like criticisms to be expressed and disregards them when they are made.

TEACHER WORLD VIEW OPIONNAIRE

Below are a number of commonly expressed opinions. You will agree with some and disagree with others. There are no right or wrong answers. Whatever you think about the statements, many others will think the same. Nobody will know what your answers are, so you may answer as you believe.

1. Read each item carefully but quickly.
2. Decide whether you agree or disagree with the statement, and how strongly you feel. Then mark the appropriate column on the answer sheet to show this.

SA = Strongly Agree	A 1
A = Agree	B 2
D = Disagree	C 3
SD = Strongly Disagree	D 4

(NOTE: IN THIS SECTION YOU SHOULD NOT MARK THE LAST COLUMN E 5

3. Do every one of the items, working as quickly as you can. Your answers for this section should be numbered from 35 to 64.

SA = Strongly Agree A 1	A = Agree B 2	D = Disagree C 3	SD = Strongly Disagree D 4

ANSWER SHEET NUMBER

35 In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

36 My blood boils whenever a person stubbornly refuses to admit he's wrong.

37 There are two kinds of people in this world: those who are for the truth and those who are not for the truth.

38 Modern paintings look like something dreamed up in a horrible nightmare.

39 Most people just don't know what's good for them.

40 Of all the different philosophies which exist in this world there is probably only one which is correct.

41 As young people grow up, they ought to get over their radical ideas.

42 Discipline in most schools is not as strict as it used to be.

43 I would urge young people to enter the teaching profession.

44 The highest form of a government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

45 The main thing in life is for a person to want to do something important

46 I'd like it if I could find someone who would tell me how to solve my personal problems.

Strongly Agree	Agree	Disagree	Strongly Disagree
A 1	B 2	C 3	D 4

ANSWER SHEET NUMBER

47 The current trend is toward better teacher-administrator relationships.

48 Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

49 Man on his own is a helpless and miserable creature.

50 Young people today are in general more irresponsible than young people of previous generations.

51 It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

52 Teachers should not strike under any circumstances.

53 Most people just don't give a "damn" for others.

54 To compromise with our political opponents is dangerous because it usually leads to the betrayal of our side.

55 It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.

56 If the teachers are to raise their economic and social status, they must have a strong teachers' association.

57 The present is all too often full of unhappiness. It is only the future that counts.

58 The many different kinds of children in school force teachers to make many rules.

59 The United States and Russia have just about nothing in common.

60 In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.

61 Merit pay for teachers should be adopted universally.

62 While I don't like to admit this even to myself, my secret ambition is to become a great man like Einstein, or Beethoven, or Shakespeare.

63 Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

64 It is better to be a dead hero than to be a live coward.

PLEASE MAKE SURE THAT YOU HAVE ANSWERED EVERY ITEM.

Thank you for your kind cooperation. Place the questionnaire and the answer sheet in the envelope provided and seal the envelope. Give the envelope to the person designated to receive it.

Robert O'Reilly.

Last First Middle SCHOOL

GRADE Years BOY GIRL (Circle One) DATE Day Month Year NAME OF TEST Form

Indicate answer by placing a mark on one of the guidelines as shown in the example. Use HB pencil. Don't make marks longer than guidelines.

Example

A B C D

PART 1

1	B 2	C 3	D 4	E 5	36	A 1	B 2	C 3	D 4	E 5	71	A 1	B 2	C 3	D 4	E 5	106	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	37	A 1	B 2	C 3	D 4	E 5	72	A 1	B 2	C 3	D 4	E 5	107	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	38	A 1	B 2	C 3	D 4	E 5	73	A 1	B 2	C 3	D 4	E 5	108	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	39	A 1	B 2	C 3	D 4	E 5	74	A 1	B 2	C 3	D 4	E 5	109	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	40	A 1	B 2	C 3	D 4	E 5	75	A 1	B 2	C 3	D 4	E 5	110	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	41	A 1	B 2	C 3	D 4	E 5	76	A 1	B 2	C 3	D 4	E 5	111	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	42	A 1	B 2	C 3	D 4	E 5	77	A 1	B 2	C 3	D 4	E 5	112	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	43	A 1	B 2	C 3	D 4	E 5	78	A 1	B 2	C 3	D 4	E 5	113	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	44	A 1	B 2	C 3	D 4	E 5	79	A 1	B 2	C 3	D 4	E 5	114	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	45	A 1	B 2	C 3	D 4	E 5	80	A 1	B 2	C 3	D 4	E 5	115	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	46	A 1	B 2	C 3	D 4	E 5	81	A 1	B 2	C 3	D 4	E 5	116	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	47	A 1	B 2	C 3	D 4	E 5	82	A 1	B 2	C 3	D 4	E 5	117	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	48	A 1	B 2	C 3	D 4	E 5	83	A 1	B 2	C 3	D 4	E 5	118	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	49	A 1	B 2	C 3	D 4	E 5	84	A 1	B 2	C 3	D 4	E 5	119	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	50	A 1	B 2	C 3	D 4	E 5	85	A 1	B 2	C 3	D 4	E 5	120	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	51	A 1	B 2	C 3	D 4	E 5	86	A 1	B 2	C 3	D 4	E 5	121	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	52	A 1	B 2	C 3	D 4	E 5	87	A 1	B 2	C 3	D 4	E 5	122	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	53	A 1	B 2	C 3	D 4	E 5	88	A 1	B 2	C 3	D 4	E 5	123	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	54	A 1	B 2	C 3	D 4	E 5	89	A 1	B 2	C 3	D 4	E 5	124	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	55	A 1	B 2	C 3	D 4	E 5	90	A 1	B 2	C 3	D 4	E 5	125	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	56	A 1	B 2	C 3	D 4	E 5	91	A 1	B 2	C 3	D 4	E 5	126	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	57	A 1	B 2	C 3	D 4	E 5	92	A 1	B 2	C 3	D 4	E 5	127	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	58	A 1	B 2	C 3	D 4	E 5	93	A 1	B 2	C 3	D 4	E 5	128	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	59	A 1	B 2	C 3	D 4	E 5	94	A 1	B 2	C 3	D 4	E 5	129	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	60	A 1	B 2	C 3	D 4	E 5	95	A 1	B 2	C 3	D 4	E 5	130	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	61	A 1	B 2	C 3	D 4	E 5	96	A 1	B 2	C 3	D 4	E 5	131	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	62	A 1	B 2	C 3	D 4	E 5	97	A 1	B 2	C 3	D 4	E 5	132	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	63	A 1	B 2	C 3	D 4	E 5	98	A 1	B 2	C 3	D 4	E 5	133	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	64	A 1	B 2	C 3	D 4	E 5	99	A 1	B 2	C 3	D 4	E 5	134	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	65	A 1	B 2	C 3	D 4	E 5	100	A 1	B 2	C 3	D 4	E 5	135	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	66	A 1	B 2	C 3	D 4	E 5	101	A 1	B 2	C 3	D 4	E 5	136	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	67	A 1	B 2	C 3	D 4	E 5	102	A 1	B 2	C 3	D 4	E 5	137	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	68	A 1	B 2	C 3	D 4	E 5	103	A 1	B 2	C 3	D 4	E 5	138	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	69	A 1	B 2	C 3	D 4	E 5	104	A 1	B 2	C 3	D 4	E 5	139	A 1	B 2	C 3	D 4	E 5
1	B 2	C 3	D 4	E 5	70	A 1	B 2	C 3	D 4	E 5	105	A 1	B 2	C 3	D 4	E 5	140	A 1	B 2	C 3	D 4	E 5

PART 2

1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	9	A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10		
1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	10	A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10		
1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	11	A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10		
1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	12	A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10		
1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	13	A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10		
1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	14	A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10		
1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	15	A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10		
1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	16	A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10		

CAUTION—AVOID PLACING ANY MARKS AMONG THE BLACK TIMING LINES

APPENDIX C

INSTRUCTIONS TO JUDGES

April 17, 1967.

Dear Colleague:

The following constitutes one phase of my research project.

In the following pages you will find descriptions of the regulations, policies and practices of several Alberta elementary schools. One effect of these rules is to limit, in some way, the freedom of teachers to exercise their discretion in the performance of their professional duties in each of the following areas:

(1) the selection of content and materials, determining course outlines and sequences, texts and other aids for the courses which are taught.

(2) the manner of evaluating pupils' achievement, the nature and frequency of reports to parents, the methods of grouping students and the standards for promotion;

and

(3) the standards for the behavior of students, the methods of obtaining control of pupils, and the determination of punishments or awards for student-behavior.

Organization

The descriptions are divided into three sections. The first deals with practices concerning course content; the second, evaluation of pupils; the third, the control and discipline of students. In each section there is a one-page description of each school. At the bottom of the page is a rating scale or line. The ends of the line are labelled "complete limitation" and "complete freedom".

At the beginning of each section there is a resume of the provincial regulations which are pertinent.

Then follows the definitions of the terms "complete limitation" and "complete freedom" which represent the extreme ends of the scales.

Instructions

1. Do only one section at a time.
2. Read the summary of provincial regulations.
3. Read each description.
4. After you have read each description, mark the scale at the bottom of the page to indicate what you feel represents the amount of discretion left to the individual teacher of that school in the performance of her professional judgment.
5. Do not make any judgments about the distribution of scores.
6. Do not make any judgments about the merits of any practice or rule.

If you wish, you may first skim through all the descriptions of one section and then attempt to group or rank the schools before you assign a mark.

Aims

The aims of this exercise are to enable the investigator

(1) to classify the schools into groups on the basis of your responses, and

(2) to determine the relative amounts of freedom a teacher has in each of the three professional areas under study.

Returns

Please return these to me as soon as possible to room 542 Education Building. If you have any questions, phone 3689 or 439-3026. Thank you for your cooperation, especially since this is a very busy time of the year, and because this is very important to me.

Robert O'Reilly

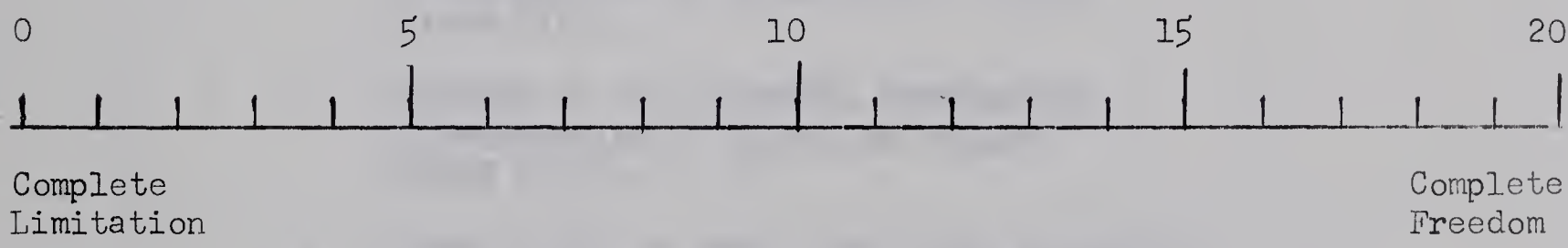
APPENDIX D

JUDGES' RATING SCALE

JUDGES' RATING SCALE

One such rating scale was found at the bottom of each page on which was written a description of one area of each activity (course content, evaluation of pupils and control of students) for one school.

Judges rated each school by placing a mark on the rating scale.



APPENDIX E

SUPPLEMENTARY TABLES

1. RANKS ASSIGNED BY JUDGES TO SCHOOLS ON THE BASIS OF TOTAL STANDARDIZATION SCORES (TABLE XXI).

2. GOODNESS OF FIT OF NORMAL FREQUENCIES TO FREQUENCIES OF SATISFACTION SCORES (TABLE XXII).

3. GOODNESS OF FIT OF NORMAL FREQUENCIES TO FREQUENCIES OF DOGMATISM SCORES (TABLE XXIII).

4. CORRELATIONS OF ITEMS WITH TOTAL DOGMATISM SCORE IN PRESENT STUDY AND TROLDAHL AND POWELL STUDY (TABLE XXIV).

TABLE XXI

RANKS ASSIGNED BY JUDGES ON THE BASIS OF TOTAL STANDARDIZATION SCORES

Judges	Schools														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	13	10	12	6	8.5	3	4	8.5	5	2	11	15	14	7	1
2	15	9.5	13	5	11.5	4	7.5	7.5	6	1.5	9.5	14	11.5	3	1.5
3	10	6	7.5	1.5	11.5	3.5	9	14	11.5	1.5	5	14	14	7.5	3.5
4	14	6	9	1	7	3	5	8	12	2	10.5	13	15	10.5	4
5	6	12.5	10	3	8.5	4.5	7	12.5	11	1	4.5	15	14	8.5	2
6	15	6	3	1	9	4.5	4.5	12	10	2	8	14	12	12	7
7	10	10	6	4.5	7	4.5	13	14	8	1	10	15	12	3	2
8	15	9.5	7	1	11	3	8	9.5	6	2	13	14	12	4.5	4.5
9	14	9.5	11	2	13	3	5	15	4	1	7.5	6	12	9.5	7.5
10	11.5	13.5	8	3.5	6	3.5	5	7	9.5	1	13.5	9.5	15	11.5	2
ΣR_j	123.5	92.5	86.5	28.5	93	36.5	68	108	83	15	92.5	129.5	131.5	77	35
Assigned Ranks	13	9.5	8	2	11	4	5	12	7	1	9.5	14	15	6	3

$W = .688$ $\chi^2 = 96.82$ $P < .001$

TABLE XXII

GOODNESS OF FIT OF NORMAL FREQUENCIES
TO FREQUENCIES OF SATISFACTION SCORES

Class Interval	Observed f		Expected f	O - E	$\frac{(O - E)^2}{E}$
28-30	1)				
	)				
25-27	1)	17	20	-3	.45
	)				
22-24	15)				
19-21	51		59	-8	1.09
16-18	102		81	21	5.44
13-15	32		45	-13	3.76
10-12	12)				
	)	14	11	3	.82
7- 9	2)				
Total	216		216	0	$\chi^2 = 11.56$

Mean = 17.45
s.d. = 3.02

df = 2

$.001 < p < .01$

The distribution of satisfaction scores differs significantly from normality.

TABLE XXIII

GOODNESS OF FIT OF NORMAL FREQUENCIES
TO FREQUENCIES OF DOGMATISM SCORES

Class Interval	Observed f	Expected f	O - E	$\frac{(O - E)^2}{E}$
70-74	3)			
	) 9	11	- 2	.365
65-69	6)			
60-64	24	20	4	.800
55-59	35	38	- 3	.237
50-54	49	47	2	.085
45-49	38	46	- 8	1.391
40-44	38	31	7	1.581
35-39	19	15	4	1.067
30-34	3)			
	)			
25-29	0) 4	8	- 4	2.000
	)			
20-24	1)			
Total	216	216	0	$\chi^2 = 7.525$

Mean = 50.24 df = 5 $.20 > p > .10$

The above distribution does not differ significantly from normality.

TABLE XXIV

CORRELATIONS OF ITEMS WITH TOTAL DOGMATISM SCORE IN PRESENT STUDY AND TROLDAHL AND POWELL STUDIES

Item number	Rokeach item number	r with total Present Study	r with total T & P
1.	53	.38	.73
2.	49	.41	.72
3.	48	.46	.57
4.	63	.49	.56
5.	39	.46	.68
6.	5	.33	.55
7.	26	.31	.56
8.	14	.47	.63
9.	51	.42	.47
10.	11	.56	.61
11.	38	.48	.57
12.	13	.48	.50
13.	41	.46	.44
14.	54	.37	.59
15.	58	.36	.37
16.	1	.35	.52
17.	18	.34	.46
18.	25	.19	.54
19.	6	.28	.35
20.	21	.36	.42
		r_{tt} = .79	r_{tt} = .84

APPENDIX F

PROVINCIAL REGULATIONS FOR SCHOOLS IN ALBERTA

PROVINCIAL REGULATIONS FOR SCHOOLS IN ALBERTA

The purpose of this supplement is to review some of the major legislative and administrative documents which govern the activities of schools and teachers in each of the following three areas: (1) selecting course content, (2) evaluating and classifying pupils, and (3) controlling and disciplining students.

The four principal documents of the Province of Alberta which state the aims and objectives of schools and provide guidelines to achieve those aims are: (1) The Department of Education Act;[1] (2) the School Act;[2] (3) the Regulations;[3] and (4) the Program of Studies.[4]

The Department of Education Act. This act constitutes the Department and defines its powers. Among other matters, it provides that the Minister may make regulations concerning the curriculum, evaluation of pupils, textbooks and other school supplies.[5]

The School Act. Local administrative authorities and their powers are the subject of this Act. It provides that boards shall select

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[1]Alberta, The Department of Education Act, 1955, Revised Statutes of Alberta (R.S.A.).

[2]Alberta, The School Act, 1955, R.S.A.

[3]Alberta, General Regulations Under the Department of Education, Order-in-Council 805, 1962. Hereafter referred to as Regulations.

[4]Alberta, Department of Education, Program of Studies for Elementary Schools, (Edmonton: Queen's Printer, 1965). Similar Programs of Studies exist for junior and senior high schools.

[5]The Department of Education Act, section 7.

texts and supplies only from a list authorized by the Minister;[6] it controls a number of matters relating to the conducting of schools; it states the conditions under which boards may prescribe penalties for various offenses committed by pupils;[7] it prescribes the duties and powers of teachers.[8]

The Regulations. The Regulations prescribe courses of study which are to form the basis for the instruction and classification of pupils. It states that any modification of such courses must have the approval of the Minister of Education.[9] It also prescribes the duties of pupils concerning attendance, tardiness, appearance, and deportment.[10]

Program of Studies. This document delimits the aims and objectives of the courses in terms of behavioral goals under the headings of abilities and skills, understandings, attitudes and appreciation. As an example of content delimitation, the grade three language program has as objectives the following: (1) learning the proper use of antonyms and synonyms; (2) learning the proper use of the telephone; (3) the importance of the beginning sentence in writing paragraphs; (4) the specific rules for capitalization which are to be taught; and (5) the elements to be learned in parsing verbs.[11]

It provides a suggested sequence of general topics for each grade.

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[5] The Department of Education Act, section 7.

[6] The School Act, section 177.

[7] Ibid., sections 179-180

[8] Ibid., section 368.

[9] The Regulations, section 10.

[10] Ibid., section 9.

[11] Program of Studies, p. 10.

As an example of the type of limitation and choice, this portion of the grade four social studies is cited:

Area: Life in the Mountain Regions.

Topic: one of -- Switzerland
Norway
Mexico
Ceylon
Himalayas.[12]

Finally, for each approved course, the Department of Education publishes a curriculum guide. Each guide states aims and objectives; it suggests areas and topics to be studied; it serves as a guide for the development of the course. These guides are suggestive rather than prescriptive.

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[12] Ibid., p. 24.

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